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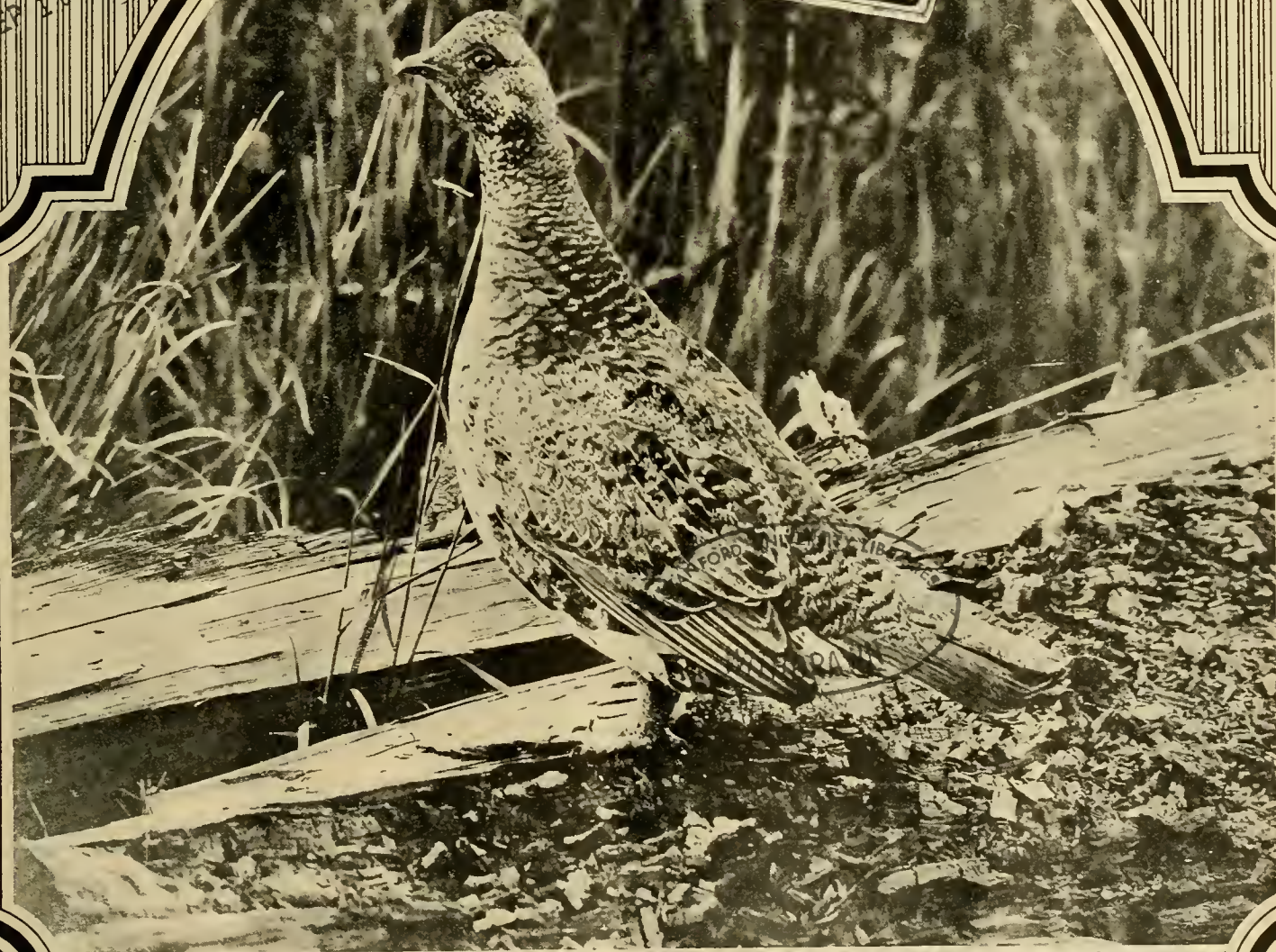
JUNE

NO. 1.

MONTANA

WILDLIFE

STATE
SEP 20 1930



OFFICIAL PUBLICATION OF THE
MONTANA STATE FISH AND GAME DEPARTMENT

THIRD ANNIVERSARY NUMBER

Montana Melodies

Submitted by George B. Winston, Anaconda

Judge of the Third Montana Judicial District

*S*HE calls it desolate, this land of grass and hills and sky.
She thinks it strange I love it and I can not tell her why,
For she never sensed the rhythm of the soundless sym-
phony,

*In a thousand tones of music, the grasses sing to me;
In the heaving waves of prairie billowing far beyond my
sight,*

*Or the glory of the starlight on a moonless winter night,
And the opalescent dream clouds of a quiet autumn day,
And the flushing green of wheat fields when the snow has
soaked away,*

*In the Rockies' ragged outline, topped by Old Chief's
rugged crest,*

*Like a silhouette of cardboard pasted up against the west;
In the heavenly blue of flax-bloom waking to an August's
dawn,*

*O rthe blizzard's raging whiteness blotting out the noon-
day sun,*

*With the theme of throbbing wildness flowing shyly
through it all,*

*Like the one phrase, oft repeated, in the meadowlark's
clear call.*



MONTANA WILD LIFE

The Official Publication of The State Fish and Game Commission

VOL. III.

HELENA, MONTANA, JUNE, 1930.

NO. 1.

Tom Marlowe Leads 1930 Commission



R. H. Hill

MEMBERS of the State Fish and Game Commission, in session at Helena May 23, transacted business of importance at the annual Commission meeting, while members of the Montana Sportsmen's Association were gathering at their eleventh annual session at the Placer Hotel. Immediately after the conclusion of Commission business, the board adjourned to meet with the sportsmen.

The annual meeting of the Commission was held at the office of the State Game Warden at Helena, May 23. Those present were Thomas N. Marlowe, Chairman; E. A. Wilson, G. T. Boyd and J. L. Kelly, Commissioners; Robert H. Hill, Secretary; Field Assistants Treece and Schofield; Col. D. G. Stivers of Butte; L. A. Smith of Lewistown; Dr. M. J. Elrod of the State University, Missoula.

Mr. Marlowe called attention to the fact that it was the annual meeting, at which time the board was to reorganize for the coming year.

Mr. Kelly nominated Mr. Marlowe as Chairman for the coming year. There being no other nominations, the nominations were closed.

Mr. Boyd moved that Mr. Marlowe be elected Chairman; seconded by Mr. Kelly, and the election was carried unanimously. Mr. Marlowe expressed his thanks to the members of the Commission.

Mr. Marlowe called upon L. A. Smith of the Lewistown Rod and Gun Club, who asked the cooperation of the Commission in repairing and enlarging the rearing ponds at the state hatchery at Lewistown. They have three rearing ponds at this hatchery which are beyond repair, as they were built seven years ago. The Lewistown club is willing to donate all the labor if the Commission will furnish the material for enlarging and repairing these ponds, making them 65 feet long and concreting them. On motion of Mr. Kelly the request for material to complete and enlarge the present rearing ponds at Lewistown was granted.

Mr. Smith asked the Commission if they intended having a state predatory animal contest this year. He expressed

the belief that it is a worth-while campaign, but Mr. Hill explained that not a great deal of interest has been taken in this contest the last few years. Mr. Kelly moved that the predatory animal contest be conducted this year by the Department, providing the sportsmen's clubs show enough interest and desire to have it continued; that the Secretary advise the State Sportsmen's Association to this effect, and if they assure the Department that enough interest will be given to the contest, it shall be continued for 1930.

The Chairman called upon Colonel D. G. Stivers of Butte. He explained that he was soliciting the cooperation of the Commission in creating a bird refuge at Red Rock Lakes. This area is a natural nesting place for birds, he said, but due to low waters, the marsh lands dry up every year and the ducks are not staying there. He suggested that, in accordance with the plans of engineers, among whom is State Engineer James, a dam could be built at the outlet of the lake, thus flooding an area of more than 2,500 acres, and providing an ideal bird refuge. The three engineers who made an inspection of this lake and drew the plans for the dam estimated that the cost for building this dam would be \$3,000. Mr. Stivers assured the Commission that they had the cooperation of the Butte sportsmen's organizations. On motion of Mr. Marlowe the Commission voted to expend as much as \$3,000 for the construction and completion of this dam at Red Rock Lake, as outlined by Colonel Stivers.

Colonel Stivers read a letter from William Carpenter, President of the Butte Anglers' Club, suggesting that a 700-foot dam and a headgate be installed in the old channel of the Big Hole River below Maiden Rock, thereby utilizing this channel for a chain of rearing ponds. He stated that the water in this channel does not freeze and there is some natural food in the water. The plan of the Butte Anglers' Club is to build these rearing ponds and keep approximately 4,000,000 fish in the ponds each year, the maintenance of which would be \$2,000 a year. The Butte club requested the Commission to pay one-half the expense in the construction of these ponds, the Butte club to pay the rest and for the maintenance. The estimated cost is \$3,000 for the construction of a chain of eight ponds. Dr. Treece and Mr. Hill were instructed to investigate and report at the next meeting.

Dr. M. J. Elrod of the University of Montana was asked to present to the

Commission any matters which he might have for their attention. He stated that in the cooperative work between the University of Montana and the State Fish and Game Commission, it had been the opinion of university officials that the two \$4,000 appropriations for this work for the last two years were continuous, and with this in mind they had spent more than \$4,000 during 1929 but had not exceeded the \$8,000. He requested that the university be allowed the full amount of \$8,000 for their work, inasmuch as several bills were unpaid. On motion of Mr. Kelly \$8,000 was made available for the payment of any unpaid bills incurred in the cooperative agreement between the University of Montana and the Department.

Dr. Elrod advised that a written report had been made in detail of the work of the scientists employed by the university in this cooperative work, copies of which had been presented to the Fish and Game Department. He gave a short report of the work done at Flathead Lake.

Dr. Elrod then requested a continuance of this cooperative agreement between the university and this Department for the ensuing year, suggesting that studies be made of the Missonla River pollution, and of the waters that drain into Flathead Lake. Mr. Kelly suggested that this matter be tabled until later in the meeting, until a check could be made of the finances of the Department. It was later voted to discontinue the work because of heavy demands on available funds.

Ward M. Sackett of the Hamilton Sportsmen's Club advised that the Ravalli county sportsmen would like an open season on mountain goats this year in the Bitter Root and the open season was declared on mountain goats on the west side of the Bitter Root River in Ravalli county, from October 15 to November 15, both dates inclusive, 1930, the limit to be one goat of either sex for each person.

Mr. Sackett also requested an open season on elk in Ravalli county for this year and it was agreed that all that portion of Ravalli county lying east of the Bitter Root River be open to the hunting and shooting of one elk of either sex from November 11 to 15, both dates inclusive, of the 1930 season.

Warden Hill advised that he had written the proper officials in accordance with the wishes of the Commission, relative to the construction of fish ladders over the dams in the Big Horn, Tongue and Yellowstone Rivers, and that there had been some difficulty in

finding a suitable fish ladder for these dams. J. S. James, State Engineer, who has been assisting Mr. Hill in finding suitable fish ladders, joined the meeting. He explained that he would be able to inspect these dams and could probably assist in finding workable plans for ladders in these cases. He also reported that he had inspected the Red Rock Lake proposition and recommended the building of the dam in the outlet of the lake. He offered to assist the Commission in drawing up plans for this dam. Mr. Kelly thanked Mr. James, on behalf of the Commission.

Paul J. Fair, who has been employed by the Department, gave the Commission a report of what motion pictures he believes should and could be taken of the wild life of this state for the Department. He expressed the opinion that with the opportunities presented to him, a unique and original group of films could be made for the Department. He suggested the making of possibly ten films, which would require approximately two years, showing phases and types of wild life and game and fish conservation work. He submitted a written outline of his ideas for films. Mr. Fair was authorized to continue taking such pictures as he saw fit and to report at the next meeting.

Warden Hill requested that the waters near the canal running into Lake Francis be closed to fishing, in view of the fact that the fishermen are becoming so numerous as to interfere with the spawn-taking work, and on motion of Mr. Kelly that portion of Lake Francis in Pondera county extending 500 feet in either direction from the canal and 500 feet out into the lake was closed to fishing until June 30, inclusive, of each year, in addition to the regular closed season, on account of the spawn-taking operations in that lake.

Mr. Hill read a petition from the Toole County Sportsmen's Club of Shelby asking that Sage Creek in Liberty county be closed to fishing for 1930, and that Breed Creek in Liberty county be opened to fishing for thirty days this season. The request of this organization for an open season on Breed Creek was denied.

Mr. Hill was instructed to investigate these matters.

Mr. Hill read a request from the Chinook Rod and Gun Club, asking the Commission to reopen Cow Creek in Blaine county. This creek had been closed by the Commission last September upon the request of a few residents along the stream. Deputy Warden Clark recommended that this stream be opened. Mr. Marlowe advised that he had a letter from Mr. Richards, former Fish and Game Commissioner, asking that the creek be opened, and the petition was granted during the regular open season, thereby rescinding any previous orders made by the Commission relative to this creek.

Mr. Hill read a petition from the Joplin Rod and Gun Club, asking that Half Breed Creek, in Liberty county, be not closed to fishing, and Mr. Hill was instructed to investigate the conditions.

Mr. Hill read a request from the Great Falls chapter of the Izaak Walton League, asking that Little Belt Creek,

Hands Off, Mister



JES' keep on yer way, youse guys, and don't mess around these diggin's, if youse crave bein' all together when youse depart. An' don't go snoopin' around fur them two black babies o' mine, either. We're all Montana folks, but we'll git along better when them magnificent distances separates us. Woof!

a tributary to Belt Creek, Cascade county, be closed to fishing for three years for the purpose of restocking it. They requested fish for this stream also. Belt Creek has been contaminated with mine dumpings and it is necessary to restock its feeder streams. Mr. Schofield recommended closing Little Belt Creek. The matter of furnishing fish for these streams was referred to him. On motion of Mr. Boyd Little Belt Creek and all its tributaries in Cascade county was closed to fishing for an indefinite period.

Mr. Hill read a letter from Deputy Warden Snider, requesting that the Stinson and the S. T. Sloughs, in Teton county south of the town of Choteau, wherein bass were planted last year, be closed to fishing, to give the bass a chance to propagate, and on motion of Mr. Marlowe, Stinson Slough, one mile south of the town of Choteau, bounded on the east by the highway to Great Falls and on the south by the Teton River, and the S. T. Slough, located five miles southeast of the town of Choteau, one mile south of the Choteau-Dutton highway where it crosses the Teton River, both of which are in Teton county, were closed to fishing for three years, to protect the bass planted therein.

Mr. Hill presented a petition from residents of Poplar, Mont., asking that Harris Lake, near Poplar, in Roosevelt county, be open to seining for non-game fish. The waters in this lake are shallow and freeze every year, causing all the fish to die. Deputy Krost recommended that this lake be opened to seining, and that a five-dollar seining fee be charged. On motion of Mr. Kelly the petition was granted and Harris Lake, in Roosevelt county, was opened to seining; and upon application therefor that the State Game Warden issue a license to carry on seining operations for non-game fish, charging a fee of \$5; that the holders of such licenses be permitted to have seines in their possession; that seining operations be carried on under the supervision of Deputy Game Warden Krost; and that all game fish taken by seines from Harris Lake be returned without injury to the waters in the lake.

On motion of Mr. Marlowe Three Mile Creek and Eight Mile Creek, located in Ravalli county, were closed to fishing from August 1 of this year until further order of the Commission.

Mr. Hill advised that, in accordance with the order of the Commission at their last meeting, he had secured an opinion from the Attorney General as to whether the Commission has the power to close the season on doe deer in Gallatin county. The Attorney General had replied that the Commission can not discriminate as to the sex of the deer, and if closing the season must close it to deer of both sexes. A request from the Bozeman Rod and Gun Club to close Gallatin county to the hunting of deer of both sexes had been received, and on motion of Mr. Wilson, in view of the request from the Bozeman Rod and Gun Club and the opinion of the Attorney General, Gallatin county was closed to the hunting of deer of both sexes for the year 1930.

A letter was read from the Thompson Falls Rod and Gun Club, asking that Evans Lake and the two Blossom Lakes be closed to fishing to correspond with the closed season on Prospect Creek, in view of the fact that these lakes are the sources of tributaries to Prospect Creek. Favorable action was taken.

Mr. Hill read a letter from the Deer Lodge Anglers' Club, asking for an open season on Hungarian partridges and Chinese pheasants and a closed season for three years on upland game birds in Powell county. This matter was tabled until such time as similar requests have been received from other parts of the state. They also requested an open season on elk, which matter was delayed. They requested that Cottonwood Creek, running through the town of Deer Lodge, and Mud Lake, Powell county, be opened to fishing. These matters were also tabled until later.

The Deer Lodge Club asked for the installation of a rearing pond one mile north of Elliston in the Little Blackfoot River, and this matter was referred to Dr. Treece for his investigation and inspection.

Mr. Hill read a petition from citizens asking that a bird refuge be created on their property near the Idaho line.

The matter was tabled until the next meeting.

Mr. Hill presented a letter from E. C. Carruth of Havre asking whether the Commission would be interested in creating a game preserve on the old Fort Assiniboine Experimental Station grounds. The Secretary was instructed to write Mr. Carruth, asking him what the prevailing sentiment of the sportsmen in that locality is before doing anything definite relative to this matter.

Mr. Marlowe advised that Missoula sportsmen are requesting that Lolo Creek in Missoula county, which has been closed heretofore, be opened to fishing, and the opening was approved.

Mr. Hill advised that he had been securing fire and theft insurance on Department-owned trucks and cars inasmuch as insurance rates are so high, and asked the opinion of the Commission on this matter. He was authorized to ascertain from the Attorney General whether or not this Department would be liable for acts of employees if liability insurance were not secured.

Mr. Marlowe advised that he is working on the DuRand elk situation but has nothing definite as yet.

Mr. Hill suggested the trapping of suckers and squaw fish out of Ashley Creek, Deputy Warden O'Claire having recommended the proposition, and it was directed that traps be installed, as approved by Deputy O'Claire, providing there is no expense to the Department.

A letter from E. C. Carruth was read, wherein he advised that Senator Cowan of Box Elder is desirous of securing pike, pickerel or bass for his reservoir. Mr. Schofield was authorized to furnish him with bass. In his letter Judge Carruth advised that John Brinkman has accumulated a section and a quarter of land and wants it added to the Brinkman game preserve. Inasmuch as a hearing will have to be held on this matter, no action was taken.

Mr. Hill presented a request from Elmer C. Smith of Dutton for bullheads for planting in his district.

Mr. Marlowe advised that N. O. Miller of the Roy Rod and Gun Club would like to get some sunfish and perch for his territory. These matters were referred to Mr. Marlowe.

Mr. Hill read a letter from C. M. Curley of Judith Gap, who asked pheasant eggs for hatching, inasmuch as he has accommodations for them on his property. Mr. Hill was instructed to write him to find out whether he will do this without remuneration. If so, Mr. Hill was authorized to send eggs later.

Mr. Kelly reported on the egg take at the State Game Farm.

Mr. Hill advised that William M. Rush has taken a number of motion pictures of wild life in and around the Park, and is willing for the Department to have pictures developed from his films. He also has offered to take pictures for this Department without charge. Mr. Rush was ordered supplied with films for the Department, and prints made of his films.

Membership in the Western Association of State Game and Fish Commissioners for 1930 was renewed.

Mr. Hill read an application from George E. Markin of Bozeman for a position as field collector and laboratory technician.

Joy at Nine Pipe



THOUSANDS of boys and girls, mothers and dads who have spent many happy hours angling from the shore of Nine Pipe Reservoir for sunfish, bass, and crappies, will soon have their joys restored. During the low water the State Commission rescued 10,000 and more of these fishes and have now returned them to the reservoir. The snapshot was taken by Deputy Jack Goldsby.

The opening date for fishing in Brown's Lake, Powell county, was changed from October 1 to September 15 of each year, the closed season to be from July 7 to September 14, both dates inclusive, of each year.

Mr. Marlowe advised that the Missoula River has been badly polluted for the last year, and he would like a chemical analysis made of this water to determine the cause of pollution. Dr. Howard of the University of Montana has agreed to make this chemical analysis, his compensation to be two months' salary at \$250 per month. Dr. Howard of the University was employed to make a study and examination outlined in his report to the Commission, under the Chairman's supervision.

A claim from Mrs. Ollie E. Morris for 35 tons of hay at \$15 per ton, which she claims the elk have destroyed, and a similar request made by Mr. Witcomb of Augusta were denied.

Mr. Marlowe stated that he has a lease from the Federal Government for the land surrounding Kicking Horse Reservoir, and that he can secure a wire fence around this land. It is owned at present by the Jesuit Fathers at St. Ignatius. The fence is in good repair and is comprised of 1,435 rods of three and four-wire fencing. This land is full of pot holes and is an excellent nesting ground for birds. Mr. Marlowe was authorized to purchase this fence at a cost not to exceed 40c a rod.

Mr. Marlowe had a request from the Dawson County Rod and Gun Club for a closed season on prairie chickens. The matter was tabled until later.

Mr. Marlowe presented a letter from L. G. Hornby, Forest Supervisor at Kalispell, offering to take salt into the South Fork if the Commission will purchase the salt. Mr. Hill was authorized to order the salt.

Mr. Marlowe presented a request from the California Division of Fish and Game for 100,000 eyed grayling eggs.

They suggested that perhaps they could trade California quail for the eggs.

A letter was read from Byron DeForest, addressed to Mr. Marlowe. It was referred to Messrs. Boyd and Schofield for report at the next meeting.

Mr. Marlowe reported that two fish wheels have been installed by Mr. Sanderlin and one by another man, being assisted financially by the Commission. Mr. Doyle has a fish wheel which has merit, and Mr. Marlowe asked financial assistance for him. Mr. Marlowe advised that he had written the engineer from the Bureau of Fisheries to make an inspection of these fish wheels and screens.

Dr. Treece requested a change in the open and closed season on Georgetown Lake. This matter was delayed awaiting the arrival of Dr. Crawford, as he has studied this lake thoroughly.

Mr. Boyd advised that Paul Dorn of Great Falls would like a permit to seine for sucker minnows for live bait. Dr. Treece advised that this is one of the causes of pollution of waters with non-game fish. No action was taken on this request.

Mr. Schofield advised that it is necessary that four concrete ponds be built at the Anderson hatchery. The ponds now there have dirt bottoms and can not be cleaned, the water becomes contaminated and the fish diseased. He presented plans for four concrete ponds, well reinforced, 60 feet long, the estimated price for which would be \$1,511. These ponds would be heat proof and frost proof. Mr. Schofield was authorized to have these four ponds constructed at the Anderson hatchery.

Mr. Marlowe read a letter to the Commission from Commissioner W. K. Moore of Billings, who was unable to attend the meeting.

The Forsyth Rod and Gun Club has a plan similar to that at Red Rock Lake to make a nesting ground for birds. The Secretary was instructed to get in touch with the State Engineer, and have him make a survey of the project, to be reported on at the next meeting if possible.

Floyd L. Smith, editor of MONTANA WILD LIFE, advised that inasmuch as the June number of MONTANA WILD LIFE is the third anniversary number, he asked the desire of the Commission regarding a larger edition printed, which would include addresses and events of the Montana State Sportsmen's Association meeting, May 23 and 24. It was decided to have a larger June edition.

On motion of Mr. Marlowe the Educational Secretary of the Fish and Game Department was directed to devote all his time possible taking subscriptions to MONTANA WILD LIFE in connection with his other work.

The question of cooperating with the State University in a biological research was again presented to the Commission and in view of the necessity for conservation of funds the Commission deemed it inadvisable at this time to continue cooperative investigations.

Mr. Wilson advised that he is still working on the Dailey's Lake plan and is now attempting to have a county road built around the lake. Mr. Wilson was instructed to continue his negotiations.

Eleventh Annual Meeting

MONTANA SPORTSMEN'S ASSOCIATION, HELENA, MAY 23-24



Glen A. Smith

DELEGATES from clubs of Montana sportsmen gathered at the eleventh annual meeting at the Placer hotel at Helena May 23 and concluded their sessions May 24. Because of the necessity for fostering fish and game conservation movements among sportsmen of the state and in realization of the importance of the work being done, the State Fish and Game Commission

has approved publication of this enlarged edition to broadcast the proceedings of the convention. The following minutes have been provided by J. C. Frohlicher, Educational Secretary:

The meeting of the Montana Sportsmen's Association was called to order by Chairman Glen A. Smith of Missoula at 9:30 o'clock, with the following delegates present:

Browning Rod and Gun Club—Frank Sherburne.

Anaconda Anglers' Club—J. J. Harper O. V. Christianson.

Western Montana Fish and Game Association — William Anderson, Thomas N. Marlowe.

Laurel Rod and Gun Club—W. I. Phillips, T. S. Buford.

Upper Musselshell Valley Sportsmen's Association—L. R. Daems, George Philippi.

Toole County Sportsmen's Association—Loren Donaldson.

Hamilton Anglers' Club—Ward Sackett.

Lewistown Rod and Gun Club—W. E. Kier, L. A. Smith.

Stanford Rod and Gun Club—Armin K. Neubert.

Bozeman Rod and Gun Club—Fred B. Williams.

Big Timber Rod and Gun Club—J. F. Patterson.

Lewis and Clark County Rod and Gun Club—Cecil V. Wilson, Floyd L. Smith.

Butte Anglers' Club—D. G. Stivers.

Forsyth Rod and Gun Club—Dr. G. T. Haywood.

Custer Rod and Gun Club—Tom A. Busey.

Choteau Rod and Gun Club—W. E. Lockhart, Danzel McDonald.

Stillwater County Rod and Gun Club—A. W. DeGroat.

Great Falls Sportsmen's Association—Frank Lemmer.

Augusta Rod and Gun Club—Henry Cottle.

Deer Lodge Anglers' Club—Neil Grogan.

Billings Rod and Gun Club—Garfield Tonkin, George Mushbach.

Flathead Game Protective Association—S. V. Frohlicher.

Fort Benton Izaak Walton League—Werren Rowe.

Governor J. E. Erickson welcomed the sportsmen to their annual meeting, saying:

"Fish and game is to be considered one of the important natural resources of Montana. Its proper conservation and use will do much to build up the state, and to attract to Montana sportsmen who may become part and parcel of its citizenry.

"To the State Association and to the State Fish and Game Commission is entrusted a mighty task, that of properly caring for our resource of recreation. The resource has been cared for profitably in the past, and it is certain that in efficient hands the resource will become greater in the future.

"I wish you men well in your deliberations, and want to say that whenever possible I personally will be glad to assist you."

After the governor's speech a short recess was called so visitors could meet Governor Erickson.

The report of the Secretary was then read, as follows:

Sportsmen Elect Two New Leaders



L. A. Smith
Lewistown



Fred B. Williams
Bozeman

TWO outstanding Montana sportsmen were elected to the governing board of the Montana Sportsmen's Association at the annual meeting at Helena. L. A. Smith of Lewistown was elected to succeed W. B. Nelson of Great Falls. Dr. J. H. Garberson of Miles City was re-elected. Fred B. Williams of Bozeman was elected to succeed E. A. Wilson of Livingston, who is a member of the State Fish and Game Commission, and who asked that his nomination be withdrawn. Mr. Wilson has been active in constructive movements of the state association as well as in the State Commission.

"The present Secretary took office February 1, not being certain what his duties were, and he did his best to fumble along, trying to accomplish something. The absence of the chairman from the state hindered somewhat in the work, since it was of a nature new to him.

"Due to the kindness of the State Fish and Game Commission, a page in MONTANA WILD LIFE was given to the Association. The Secretary has endeavored to fill this page, and regrets that there was not more material available.

"Trips to various parts of the state took considerable of the time of the Secretary. He met with 15 sportsmen's organizations or their directorates and spoke in addition before service clubs and schools and Boy Scout troops. A total of 28 speeches has been made, telling, in every instance, of the work the State Fish and Game Commission and Department were doing and of plans of the Association to aid the Department. Numerous newspaper articles were prepared.

"The financial report:

Balance, Feb. 1.....	\$815.13
Travel expenses	\$329.67
Office expenses	49.41
Refund of dues.....	98.50

Bainville Rod and Gun Club	10.00
T. Martin	1.00
Stanford Rod and Gun Club	15.00
Upper Musselshell Valley Sportsmen	50.00

Total.....	\$891.13
Less expenses	475.58

Balance, May 1, 1930 \$415.55

Upon the reading of the Secretary's report, Chairman Smith appointed W. E. Kier of Lewistown and Frank Sherburne of Browning as an auditing committee.

He named on the resolutions committee O. V. Christiansen of Anaconda, Armin K. Neubert of Stanford and Loren Donaldson of Shelby.

George Mushbach, United States Game Protector, next was introduced.

"All of us as sportsmen are interested in the duck situation," said Mr. Mushbach.

"Ducks have certain well-defined migration routes, and these are known to hunters all over the country. But the encroachment of agriculture on the breeding and resting grounds of these ducks has made serious inroads on the duck population.

"There are other factors that lead to a scarcity of the ducks. On areas that are shot over heavily countless pellets of shot are found in the mud of the swamps. These shot are taken into the birds' stomachs via the digestive tract and the effects of the lead causes what we know as lead poisoning.

"Just last month it was brought to my notice that a lake northeast of Bil-

lings was covered with dead ducks. An investigation showed that while the report was exaggerated, there nevertheless was a toll taken among the ducks. The ducks that were dead were mostly golden-eyes, bound for their nesting grounds in Canada.

"Examination of these ducks showed definitely that there was shot in the stomach. In many places the acids of the body has eaten the shot and the resulting poison was absorbed into the system.

"These ducks may have traveled many miles before dying, but it is something to think about if we want to preserve our waterfowl.

"As you know, under the Migratory Bird Refuge bill Congress has appropriated a large sum of money. This money is to be used in establishing federal migratory bird refuges. A comprehensive system of these refuges will permit a certain amount of shooting along the lines of migration, but will give the birds a chance.

"To date there is but one large federal waterfowl refuge area in Montana. That is at Benton Lake, north of Great Falls. But the Bureau of Biological Survey is looking for sites that may be acquired cheaply and that are suitable as bird refuges for our ducks.

"There are other refuges for waterfowl that are federal in character about the state, but not enough of them exist at present. Therefore it is deemed advisable that more refuges be established.

"That is one work you sportsmen might further. When you locate a site that might be serviceable, low-priced, with an available water supply that can be used to flood the lowlands and make them secure from dry seasons, let us in the Bureau know. It will aid in saving our ducks."

Followed a discussion about the advisability of using non-poisonous substances as a substitute for lead in shot. Upon motion of Fred Williams of Bozeman the question was referred to the resolutions committee.

The meeting recessed at 12 o'clock noon, and reconvened at 1:30 o'clock in the afternoon. William Rush, who is employed in a study of the northern elk herd in Yellowstone National Park, told of the diseases of elk. He is employed under a cooperative agreement between the State Fish and Game Commission, the Bureau of Biological Survey, the Forest Service and the Park Service.

Earl A. Fry of Seattle, field representative of the E. I. DuPont De Nemours Powder Company, was the next speaker.

"It is conceded in several of the prairie states that a sportsman will spend \$15 a year in pursuing his favorite recreation, either hunting or fishing. Recently Mr. Marlowe, chairman of your State Fish and Game Commission, told me that in Montana the average would be much higher than that. He believed that each hunter and angler would spend \$30 a year on an average, and he told of men who spent hundreds of dollars a year," said Mr. Fry.

"Last year your Fish and Game Department sold about 89,000 licenses, and the expenditures for hunting and fishing, other than the \$2 license fee, was about \$2,670,000.

"It is impossible to compute the value of the fish and game taken by these hunters from a food viewpoint. Wyoming, to the south of Montana, has placed its fish and game as second in value of its resources, but Montana has more game than Wyoming. There is a tremendous drain on this reservoir, and it is possible that it will be a greater drain as the years roll along.

"Sportsmen of the state should work to conserve and use the game. Sportsmen's club should have as their program something constructive in the fish and game restoration line in their localities.

"Problems of stream pollution have not, as yet, meant a great deal in Montana, save in scattered instances. But the question of stream pollution will come up in the future. It is up to sportsmen's clubs to work out a solution now.

"Fish planting can be one of the big features of any local program. The establishment of rearing ponds will lead to better angling in the future, and an investment in proper ponds is one that will pay dividends. Many clubs in other states find this alone is one of their biggest works.

"In the restocking of game bird coverts with birds that are adapted to the climatic conditions and that provide sport, hunters are facing a definite and a great problem. Many companies now are interested in a program of game restoration, and much data has been gathered to use in this work.

"You have a good game bird farm in the state, at Warm Springs. It was started by the Fish and Game Department last fall, and has as its superintendent J. F. Hendricks, who is one of the best men in the country when it comes to raising Chinese pheasants. He will have, it is to be hoped, thousands of birds for liberation this year. The liberating of these birds will constitute a good activity for you sportsmen.

"Another phase of this restocking program is the hatching of pheasant eggs by individuals. In many states the department furnishes the pheasant eggs to farmers, who hatch the birds and raise them to a state of maturity. The department often pays for the birds when they are liberated. This leads to cooperation with the farmers, and engenders better feeling.

"Sportsmen's clubs can help the cause in the future by sponsoring troops of Boy Scouts. It isn't for ourselves alone that we want to preserve the hunting and fishing, but for the little fellows who are the men of the future. To them we owe some debt.

"Many civic clubs can be interested in conservation movements. The American Legion is one, and I believe they have a provision for aiding conservation of natural wild life in their convention proceedings. That is another big phase of the work, but it is educational. Schools can be made part of the bodies, and junior sportsmen's clubs can be started.

"Newspaper cooperation can be a potent factor in the program. I have here a bundle of clippings, just one week's assortment, from Nebraska. Fish and game news is always good news, and any editor will tell you so. Sportsmen should cooperate with the newspapers.

"Another big field of cooperation is with your Fish and Game Department. I have known many commissions, but the Commission in Montana has done a work that is outstanding. Non-political, it has accomplished great things for the betterment of your hunting and fishing, and it deserves your whole-hearted support in its program."

Chairman Smith then introduced Thomas N. Marlowe, Chairman of the State Fish and Game Commission, who told of the needs of the Department.

Following Mr. Marlowe's speech,

Bleaching Bones Beneath Montana Skies



HERE'S another horror that causes the blood of sportsmen to run cold. This old ram, once the monarch of his herd of mountain sheep, has been killed and his bones left to bleach in Montana mountains. Despite

the fact that they are protected, some overzealous hunter has downed him, discovered his mistake and then left the carcass. Or was it a cougar, malignant disease or another more powerful rival?

Chairman Smith appointed the following committee to work on a measure for the increase in the fish and game license from \$2 to \$3: Ward Sackett, Hamilton; Cecil V. Wilson, Helena; L. A. Smith, Lewistown.

The convention adjourned, upon motion of Fred Williams, seconded by L. A. Daems.

A trout banquet was served in the evening in the Grill Room of the Placer Hotel, and reels of wild animal pictures were shown by William Rush and Earl A. Fry. Forty-seven men attended this section of the program.

SATURDAY MORNING SESSION MAY 24, 1930

Chairman Smith called the meeting to order at 9 o'clock.

A communication from Rev. W. B. Nelson of Great Falls, a member of the governing board of the Montana Sportsmen's Association, was read. Rev. Mr. Nelson was unable to attend the meeting, being seriously ill.

Frank Sherburne, chairman of the auditing committee, reported that the books balanced and that everything was in order. Moved by Loren Donaldson, Shelby, seconded by J. J. Harper, Anaconda, that the report be adopted. Passed.

Mr. Donaldson, chairman of the resolutions committee, stated that he was ready to report.

Moved by Fred Williams, Bozeman, seconded by L. A. Daems, Harlowton, that each resolution be taken up as it was read. Passed.

"Be it resolved that we endorse and recommend a definite program of migratory bird sanctuaries as provided in the Migratory Bird Act. It is recommended to the sportsmen of Montana that they give their cooperation and assistance to further this movement."

Moved by Williams, seconded by Haywood, that the resolution be adopted. Passed.

"Be it resolved by the Montana Sportsmen's Association in annual meeting assembled May 23, 1930, that this association communicate with the different ammunition manufacturers with regard to lethal poisoning caused by ducks eating lead shot with the end in view of soliciting their investigation with non-poisonous substitutes for lead in the shot."

Moved by Williams, seconded by Haywood, that the resolution be adopted. Passed.

"Be it resolved by the Montana Sportsmen's Association that we condemn the use of salmon eggs or spawn or derivatives of the same and we urge the proper legislation to prohibit the sale or use of such fish bait in any water, running or still."

Moved by Christiansen, seconded by Buford, that the resolution be adopted. Passed.

"Be it resolved that the Montana Sportsmen's Association recommend the reduction of the present bag limit on fish to 15 pounds and one fish or 20 fish."

Moved by Williams that resolution be amended to read "20 pounds and one fish." Seconded by Sackett. Amendment passed.

Moved by Buford that resolution as amended be passed. Seconded by Phillips. Passed.

"Whereas, the Chief Executive of the United States has seen fit to plan his vacation and fishing trip to the State of Montana:

"Be it resolved, that the Montana Sportsmen's Association extend to President Herbert Hoover their heartiest welcome and sincere promise of individual and club cooperation in making his visit a success.

"Be it further resolved, that the Secretary be instructed to so advise the President."

Moved by Williams, seconded by Kier, that the resolution be adopted. Passed.

"Be it resolved by the Montana Sportsmen's Association that they go on record as voicing approval of the game restoration of the E. I. DuPont de Nemours Company and extend their thanks to its representative, Earl A. Fry, for his work here."

Moved by Marlowe, seconded by Wilson, that the resolution be adopted. Passed.

"Be it resolved by the Montana Sportsmen's Association that this association recommend to the Federal Land Commission the establishment of game refuges on the public domain in the event these lands are turned over to the state."

Moved by Williams, seconded by Sherburne, that the resolution be adopted. Passed.

"Be it resolved that the Montana Sportsmen's Association increase its board of directors from 7 to 15."

Discussion of this resolution led to a motion by Williams to table it. Seconded by Sherburne. Passed.

Report of the license increase committee was then read.

"We, your committee appointed to present to you for your consideration a plan or program for a new license fee schedule to be presented by this organization at the next session of the State Legislature, beg leave to report as follows:

"We have examined into all the license fees exacted by all of the 11 western states where hunting and fishing conditions are in a way similar to those in Montana and find that in none of these states are license fees lower than in the State of Montana, and that in only one state are the fees as low as the State of Montana, namely, the State of Idaho. In all the other western states the fees are in excess of those charged in Montana. In five of these states we find that fees charged are \$5 for a general resident hunting and fishing license.

"We also find that in almost all of these states a so-called split license fee is provided for. We believe that Montana offers to the hunter and fisherman for the fee exacted for a hunting and fishing license more than any state in the Union.

"We therefore recommend for your consideration a license of \$5 for a general resident hunting and fishing license and a split license of \$3 for hunting game and \$3 for fishing, minors under 15 years of age no license fee and over 15 and under 18 to pay a fee of one-half that fee above recommended."

Moved by Sackett, seconded by Wilson, that the resolution be adopted.

Tonkin of Billings asked an explanation of the fee. Mr. Marlowe recapitulated his talk of Friday, telling of the money spent by the Fish and Game Department and how this department is different from any other in that it can not go into the "red" and rely upon a deficiency bill to tide it over.

Mr. Fry stated that in Washington the state license fee was \$7.50 and that Idaho is working for a \$5 license fee this year.

Sherburne asked that the split include birds on the fishing license. Moved by Williams, seconded by Sherburne, that the general license fee be five dollars, birds and fish, three dollars. Further discussion followed. Moved by Williams that the report be tabled.

The motion was carried, 21 to 11.

Moved by Anderson of Missoula that the existing fee be increased 50 per cent. Seconded by Daems. Carried.

Moved by Daems that the non-resident license fee be increased to \$5 for fishing. Seconded by Kier. Defeated.

Nominations for the governing board were then called for.

Dr. J. H. Garberson of Miles City was re-elected to succeed himself. He was nominated by Mr. Marlowe.

Fred Williams of Bozeman was elected to succeed E. A. Wilson of Livingston, who declined to serve again, since he is a member of the Fish and Game Commission.

L. A. Smith of Lewistown was elected to succeed Rev. W. B. Nelson of Great Falls.

Garfield Tonkin of Billings paid a tribute to E. A. Wilson, saying that he was entitled to a great deal of praise and recognition for the work he has done to better game conditions in the southern part of the state. He was thanked by Mr. Tonkin in behalf of the Billings club.

J. J. Harper of Anaconda moved that a vote of thanks for the efficient work done by Game Warden Robert H. Hill be given. The delegates stood up to applaud as the motion was carried.

H. B. Foote of the Montana State Board of Health then gave an address on "Has Montana a Stream Pollution Problem?"

A discussion of the paper was then given by Mr. Thompson of Bozeman, who has charge of the United States Bureau of Fisheries hatchery there.

Discussion of the Common Enemy Control contest, undertaken annually by the Fish and Game Department, was then held. Game Warden Hill stated that last year but five clubs got in their reports on time, and that one club came in too late to be figured in the money. The matter of the contest was left to the Secretary to determine, from clubs, if enough of them would enter to make the contest worth while.

George Baggey, chief ranger in Yellowstone National Park, expressed his gratification at the meeting and invited all delegates to visit him should they tour the park this summer. He thanked the Fish and Game Commission for their work in behalf of the northern Yellowstone elk herd.

Moved by Williams, seconded by Harper, that the meeting adjourn. Carried.

Sportsmen Favor Increased License Fee



T. N. Marlowe

When delegates representing affiliated clubs of the Montana Sportsmen's Association gathered at Helena for their annual meeting May 23-24, it was unanimously agreed to endorse the plan of increasing the resident hunting and fishing license from \$2 to \$3 per year. The price of the non-resident license fee was left at its present figure, it being contended that Montana welcomes visitors and that an increase might indicate disparagement of the hospitality for which Montana folks have become famed. Despite the fact that the State Fish and Game Commission has declined to make a definite recommendation regarding the pressing needs for increased revenue, if Montana's hunting and fishing are to be preserved, Chairman Thomas N. Marlowe finally yielded to appeals of members of the state organization and explained in thrilling manner just what problems are now confronting the Commission—the only self-sustaining department of the state government, which is financed solely by the sportsmen and through allied activities. It was a powerful address, delivered with all the power, precision and grasp of facts and figures for which Mr. Marlowe has become acclaimed as a conservationist.

"The attention of thousands is being attracted to Montana each year because of the call of the out of doors," said Mr. Marlowe. "Fish and game constitute the greatest natural resource we have left, the cleanest and most health-giving sport. Many of us have been afflicted with the opinion that game has been so plentiful that it would never disappear, yet with the ever-present desire to kill and destroy, Montana, like other states, faces problems of mandatory importance.

"We have not been satisfied with taking an ordinary number of trout from the streams, but we have gutted them. Each year sees the manufacturer turning out more efficient lures and tackle with which to add to the bag. You know what the automobile has done to fishing and it will not be long before the airplane will be utilized to enter the fastnesses where fish and game are making their last stand. Every increasing efficiency is a direct challenge to those who stand for the protection of fish and game.

"We must put on an intensive program and do it right now. Montana has seen no increase in the license tax for the last ten years, yet we are keeping pace on limited funds with progress of the nation westward. The only increase we have experienced is in the large increase in licenses sold. All

other departments of government have been expanded through financial aid, yet the Fish and Game Department has made progress with funds at hand. We now have 14 hatcheries. Ten years ago we had three, yet this gain has been made on the basis of the \$2 resident license fee which has prevailed for ten years.

"Heretofore we allowed any sort of fish to be planted. We must now have more rearing ponds in which to raise and release larger fish capable of withstanding larger streams and their own natural enemies. Many planted fish fail to get by because of the fact that funds are not available to feed and keep them in the hatcheries and ponds for the required length of time.

"Back in the isolated mountain lakes, eyed eggs should be carried on pack horses and by men conversant with the planting of fish. There they have no natural enemies and will thrive on natural food.

"In eastern Montana we were unable to do anything for anglers until a few years ago, because of the fact that warm water fishes prevail there. Two years ago the Commission expended \$25,000 of the money of the sportsmen in building the largest warm water pond culture station of its kind in the world. There we are now rearing bass, pickerel, pike, catfish, sunfish and perch to meet the demands of Montana anglers in that district.

"When these plants are erected they must be kept operating and this work requires constant expenditure. It is impossible to strip warm water fish to secure the eggs as we do the trout and grayling, hence they must remain in the ponds, spawn naturally, and then permit the minnows to be taken when the pond is drained.

"Irrigation ditches of the state have resulted in the killing of three times

more game fish than are annually taken from waters of the state every year by anglers, and we must do something to bring about the installation of fish wheels at the mouths of these ditches to prevent this staggering loss. The federal government has taken an interest in this matter and has appropriated \$25,000 to make a study of fish wheels.

"There are thousands of acres of duck grounds in Montana that can be transformed into hunting grounds with the impounding of water. No duck food prevails in them and the ducks will not remain where there is no food. We have expended about \$10,000 in planting this food and require thousands of dollars more to acquire the sites for you sportsmen, plant the food and build the dams. Some day you will wake up and find all these natural spots grabbed up by private clubs and a sign on the gate inviting you to pass along.

"We have only 27 game wardens to patrol 56 counties and some of our counties are larger than an eastern state, hence many violations go unpunished.

"We need not only one game farm but at least four in the state. At the present time the one farm recently established at Warm Springs we have five acres under fence, the pens being 24x24 feet with additional larger pens for exercising. About 4,500 eggs have been taken this year and 500 chicks have been hatched. We expect to incubate about 10,000 eggs of the Chinese pheasant this year and release about 4,000 birds.

"It is only going to be a matter of time until some misguided legislature will pass a law making the sportsmen responsible for inroads made by elk and deer and the damage to fences and haystacks.

"The \$2 you pay for your license at this time is simply the premium on your outdoor insurance policy and a guarantee that, with a splendid gun and fishing outfit costing perhaps more than 100 times the cost of the license, you will get something when you go into field or stream.

"Arizona charges \$2.50 for a resident hunting and fishing license. In Arkansas the fee is \$5.25. In California the fee is \$2 for hunting and \$2 for fishing. In Colorado the fee is \$5. Idaho has the \$2 law and plans to increase it this year. Nevada charges \$2.50, New Mexico charges \$5, Idaho's fee is \$2.50 for hunting and \$1.50 for fishing. In Washington the state license is \$7.50 with \$1.50 in each county. Wyoming's hunting fee extends from \$5 to \$1.50 for each fish or animal sought.

"The question is whether you wish to sit idly by and watch these inroads cause our game to go the way of the buffalo or rise up and demand of the legislature that some action be taken to carry on. The Commission will make no recommendations regarding increased license fees. You, as sportsmen of the state, are the gentlemen whom we represent and the organization upon which rests the burden."

Work of Vandals



THIS cow elk was killed and left in the woods on the west shore of Flathead Lake. The bullet holes were still visible when the carcass was found by Deputy Jack Goldsby. The elk was one of a herd planted by Polson sportsmen in cooperation with the State Fish and Game Commission.

Has Montana A Stream Pollution Problem?



H. B. Foote

MONTANA sportsmen who attended the eleventh annual convention of the State Association at the Placer Hotel May 23-24, heard the following interesting address delivered by H. B. Foote, sanitary engineer associated with the State Board of Health:

"In order to understand more clearly the discussions which are to be raised and to understand what confronts us, I think that it would be well to characterize or define what we mean by stream pollution. I will do this very briefly as time will not permit of elaboration.

"There are three main characteristics of water, or the physical, chemical, and biological. By the physical characteristics I mean the turbidity, the temperature, color and odor; by the chemical the alkalinity, hardness, organic content, and such, and by the biological all plants and animals found in the water from microscopic bacteria and one-celled animals to the higher forms, or those characteristics determined by any life which might be in the water. Now streams are the natural drainage courses of our land, receiving the run-off from all catchment areas. The waters of these streams, therefore, are changed in their characteristics by the run-off from the various watersheds. Even before there appear on the watersheds any human habitations or activities, run-off will affect the characteristics of the main stream. But we will not in this discussion consider those natural agencies over which man has no control. Changes effected by man or his presence and operation on a catchment area are included.

"We have, therefore, two types of wastes causing stream pollution, and originating from the presence of man in the region affected. The first, or domestic wastes, include city sewage and drainage from refuse, garbage, etc., which may be thrown on the banks. Domestic wastes also include drainage from ranches, stock pens and from any recreational establishments which may be adjacent to the stream or on the watershed. The second, or industrial wastes, include those from mining and smelting activities, from railroad operations such as oil wastes, silt from gravel washing, etc. The lumbering industry has by-products which are included in industrial wastes such as sawdust and similar materials. Then there are many manufacturing establishments, each having its own peculiar type of waste. In Montana we have the beet sugar plants, meat packing establishments and many others. Stream

pollution, therefore, would be the change in a stream caused by the drainage from these various types of man's activities.

"Of course, if a stream is very large and the amount of polluting material is very small so that neither the physical, chemical or biological characteristics of the water are changed, we would not consider that stream pollution existed. It is only when the changes are obvious or can be determined upon proper analysis that we would say that stream pollution exists.

"Now stream pollution as characterized above does exist in Montana, as you have doubtless all observed. Instances can be cited, and I wish to note a few. Silver Bow Creek almost from its beginning receives industrial wastes and domestic wastes which profoundly change the physical, chemical and biological characteristics of its waters. The effects of these polluting materials can be seen far down the course of the stream although diluting water may have entered at lower points. In the north the Milk River, upon its return to the state from Canada, receives pollution from domestic and industrial wastes, which permanently changes its characteristics. In the east, the Yellowstone River and its tributaries all receive waste, which constitutes pollution. In fact, all our streams, with the possible exception of a few small ones that are near the borders, receive somewhere along their courses some polluting material before they leave the state. This doubtless is obvious to residents of the state who are acquainted with our conditions, although it seems to be rather surprising to visitors who have talked to us on various occasions, since it seems to be the opinion among many that waters so near the mountains should retain their primal purity.

"Knowing what constitutes stream pollution, and having knowledge that stream pollution exists in this state, the question naturally arises—does it constitute a problem, and if so, can anything be done about it?

"In my opinion there is a problem of stream pollution in Montana. The problem at any point arises from the use to which any stream in question is put and the use depends, of course, upon the locality and the natural resources which are being developed in that vicinity. In a strictly agricultural region we do not usually find the varied manufacturing products and wastes. The pollution is largely domestic in character. On the other hand, there may be some industrial wastes from sugar factories, meat packing establishments and perhaps railroading. In the mountainous areas where ore bearing rocks are found we naturally find mining and allied industries, and also lumbering activities. If these are extensive, then we have added the domestic waste.

"It can be readily seen that from the very nature of the situation one immediately finds interests which are diametrically opposed one to another. Our

liquid wastes must gravitate to the streams and the water of these same streams is a prime necessity in practically all our business and recreational activities.

"While there may be some instances in which all pollution may be prevented, we have long since receded from the position of expecting all our streams to be maintained in their original purity. In fact, our industrial and civic development would be seriously arrested were such a policy to be enforced. There must be a certain amount of use of the streams as wasteways. There must, therefore, be some concession on the part of the various interests along any one waterway or stream. We can not expect all mining and smelting activities to cease that a certain stream may thereby be made a paradise for fishermen. We can not expect all city sewage and drainage to be stopped in order that ranchers or a city below may thereby be enabled to use the untreated water for drinking and other domestic purposes. We can not expect all ranchers to keep their stock from the streams to benefit a city or industry located below them. There must be a middle ground where the demands of one party are reasonably met by those of a second party using the waters below.

"An illustration. The domestic sewage of one city should be treated sufficiently so as not to cause an odor or aesthetic nuisance to ranches or travelers along its course and so as not to produce an unreasonable burden of purification upon the city below.

"Conditions are not as we would like to have them in all instances, though fortunately we have but few acute situations in the state at this time. Nevertheless, we must not close our eyes to the trend of conditions in the state. Now is the time for us to lay out a workable plan so that conditions will not get out of hand, so that acute situations will not multiply.

"As an aid I have recently advanced the argument that our methods of financing the operation of municipal sewage disposal systems can be improved upon. At the present time any expense incurred for this purpose is met with monies from the city's general fund. Such money as is available in this fund is obtained by direct taxation. This general fund as a rule is overburdened, consequently the city council feels obliged to reduce expenses as much as possible. One place to reduce is at the end of the sewer. Hence treating plants are not built, or if built are allowed to run unattended, and sooner or later become useless. Of course, there are exceptions to this rule. There are a few sewage treatment plants which are kept in excellent operating condition.

"But by fixing a moderate sewer rental fee based upon water meter readings or water flat rates the city council will have an income independent of direct taxation. The users of the sewers will pay for service rendered, the

general fund of the city will be relieved of a part of its burden, and money will be available for the proper operation of efficient treating plants.

"This scheme is in operation in Ohio and Michigan. Mr. Sperry, Executive Secretary and Chief Engineer of the Michigan Stream Pollution Commission, has endorsed it highly and in Ohio there are many cities which have levied sewer rental fees.

"This in my opinion would help care for stream pollution conditions as set up by municipal sewage and wastes and I believe that the situation in Montana as a whole would be improved if such a plan were instituted here.

"I do not want to leave the impression that nothing is being done to control the situation in Montana. The State Board of Health is granted authority under the law so that it may study and in a measure control stream conditions which are used for public water supplies. Under this authority much study has been carried on and a policy has been set up which affects many of our larger communities. While I can speak for the State Board of Health only, I am sure that there are other state bodies which to a limited extent at least have supervision over waters in the state.

"But there is nowhere available, to my knowledge, sufficient information on which any one may at this time base definite and all inclusive recommendations, for the satisfactory answer to all questions. More information is needed and I wish to pass on to you a plan suggested by Mr. James, State Engineer.

Deer Problems

IN order that orchardists, truck farmers and the owners of ornamental gardens will not be disturbed by the ever-increasing herds of deer that are being propagated in California, that state's Division of Fish and Game has obtained the assistance of trained field men to devise methods of protecting both the deer and the land owners.

Work on this problem will be carried out throughout California and a thorough trial will be given to all methods which might act as a repellent in keeping deer in the regions where they will do no damage to agriculturists.

An important part of the work of the field men will be to make a thorough investigation of parasitism and disease in the deer, a problem that is becoming more important and consequently a greater part of conservation research every year.

"In this plan a fact-finding body of men would be created and given sufficient authority to collect, tabulate and summarize information concerning this important phase of our state business. From the information gained, say over a two-year period, conclusions could be drawn and a report made with recommendations as to the program to be instituted in order to realize for us all the best utilization of our water resources.

"The plan has not been fully worked out, but perhaps the legislature next winter could authorize the governor to select a representative from existing state bodies, such as the Board of Health, Fish and Game Commission, State Engineer's office and the Livestock Sanitary Board and from such extra governmental bodies as are vitally interested in water resources and uses. The various state bodies at least have facilities for gathering the information, have in fact already gathered much, and it only becomes necessary to collect this, add what may be missing, and analyze it from the one viewpoint. With the suggestion, therefore, that a start be made to get accurate and full information concerning our conditions, I close."

SAXON SPEECH

"Say, guy, j'love this jane?"

"Yep, yer honor."

"This your bimbo, girlie?"

"You said a mouthful, judge."

"S'nuff. He's your'n. You're his'n. Ten bucks and take the air on the right. Next!"

A skunk and her four baby skunks were basking in the sun when a big hound dog made his appearance.

"Children," said the mamma skunk, "let us spray."

Lady: "Where did all these big rocks come from?"

Guide: "The glaciers brought them down."

Lady: "Where is the glacier now?"

Guide: "Gone back for more rocks."

Vacation Land of Montana Proves the Magnet Attracting Tourists



SCATTERED throughout the Land of Shining Mountains are hundreds of modern cabins, such as the nest shown here, utilized summer and winter by hospitable folks of Montana. Cooling summer zephyrs cause these beauty spots to lure tired folks to the green of the pine-clad mountains. In the winter they become hunting lodges. Then there are the thousands of "dude ranches" operated exclusively for the benefit of eastern tourists and sportsmen who are asked to "bring nothing but an appetite" and the dude ranch owners provide the rest. Saddle horses, hikes, fishing within a stone's throw of the ranch and everything worth while in the open, brings these thousands to Montana annually.

Who Owns the DuRand Mystery Elk Herd?

Predatory Animal Control

THERE'S an element of wild life romance, as well as mystery, misery and sympathy in the problem confronting Montana sportsmen and the State Fish and Game Commission in the ownership of the elk planted in the DuRand property near Martinsdale, Montana. It's just another situation left to the Commission and the solution is a puzzler. Stockholders of the ranch are largely wealthy, prominent eastern sportsmen, many of them living in New York City. In January, 1928, about 100 elk were shipped to Martinsdale where they were released in a woven wire fenced pasture of 160 acres. Inadequate feed shortly after their confinement in the enclosure caused losses. They broke out of the eight-foot wire fence. Farmers have complained. Stockmen assert they are a range menace. Meanwhile they have multiplied. But who owns them? What's to be done? Montana's Fish and Game Commission can not legally order the destruction of private property. Yet, under the laws of the state, the closed season must be observed.

Incessant endeavor is being made by the State Commission to solve the problem. W. M. Rush, who has been employed to make a study of the elk situation in Yellowstone Park and the Sun River, has investigated the facts. Here's his report:

"On May 20, 1930, I made a short field inspection of what is known as the DuRand elk ranch, on the North Fork of the Musselshell River, near Martinsdale, Montana.

"The attached copy of a report by Forest Ranger J. C. DeGroat gives a short history of this elk raising attempt and an account of the efforts made by the local residents to drive the elk to the mountains. The fenced enclosure for elk on this ranch consists of 160 acres, about one-third of which is a timbered slope of poor quality range land. The remainder is of a fair quality grazing land, the soil being of a high gravel content. At this time it shows unmistakable signs of heavy grazing. My estimate of the carrying capacity of this pasture is 12 elk for the year-long season. A start has been made to fence an additional 320 acres adjoining the present pasture. The soil and forage on this appears to be of a little better grade and the 320 acres would support about 30 elk for the year-long period.

"Nothing was learned about the losses from this planted herd but the animals were in extremely poor condition this spring and some losses may have occurred.

"At present part of these elk are back in the pasture and part have gone to the surrounding mountains where there are some native elk.

"I would call this project a dismal failure and recommend that in the future persons desiring to raise game animals be required to have ample pasture to start with, with some provisions in their permits to prevent over-stocking.

AS a result of the demands of individuals and groups of sportsmen for campaigns of destruction of so-called predatory game birds and animals, the bureau of education and research of the California Division of Fish and Game has completed arrangements with the University of California to utilize its entire laboratory equipment in making a scientific investigation of the important facts relative to predatory control.

In announcing the proposed investigation, the Division of Fish and Game puts emphasis upon the fact that actual predatory control is possible when undertaken as a state program, and the complete facilities and knowledge of state's scientists are brought into co-operative functioning in according with a general plan.

The division's report:

"The question of predatory animals and their relation to game has long been the subject of debate. Organized groups of sportsmen have asked for campaigns of destruction. In contrast to this viewpoint is that of many scientists who maintain that the predatory animal has a real place in nature and its destruction endangers the success of other animals of the forests. Additional research is needed before predatory forms of birds and animals can be evaluated."

The state-wide study will be guided by Dr. Joseph Grinnell, director of the museum of vertebrate zoology of the University of California. E. L. Sumner has been employed as a research fellow to assist Dr. Grinnell. It is expected that the results obtained from this state study will eventually help to settle in true scientific manner many questions about the relative value of various species of birds and animals that have caused endless controversy between scientists and sportsmen.

"In estimating range carrying capacity, I believe that the ratio of three elk to two cattle is sufficiently accurate to insure against over-stocking."

The history of the DuRand elk situation is well told in the following report of J. C. DeGroat, district ranger:

"The DuRand elk ranch was organized in 1927. The DuRand ranch proper is used as the operating base and the elk ranch is located there. Most of the stockholders are wealthy and prominent easterners, mainly from New York City.

"In January, 1928, approximately one hundred head of elk were shipped to and received at Martinsdale, Montana. These were hauled in their individual crates by truck nine and a half miles to the Hall ranch. Here they were

transferred to bob-sleighs and hauled by team to the DuRand ranch, six and one-half miles farther. At the ranch the animals were held and fed in enclosures till the following spring when they were turned into a pasture. One hundred and sixty acres of land were fenced in with a woven wire fence that was eight feet high.

"In June, 1928, another eighty head of elk and ten head of buffalo were also received in Martinsdale and hauled in their individual crates by truck to the DuRand ranch.

"During the winter of 1928-1929 there was practically no pasture. The losses were heavy but an exact count could never be obtained from the owners.

"During the summer of 1929 construction work was started on a new pasture but it was never completed.

"The elk were in poor condition in the fall of 1929. In such poor condition, in fact, that on November 25th one old bull had not, at that time, shed the velvet from or polished his horns. At that date, November 25, 1929, the elk pasture was overgrazed to such an extent that it resembled a plowed field. All available forage had been eaten and the elk had even stripped the trees as far up as they could reach. It has been a wonder to the community and to those who have taken observations that the elk have existed at all.

"During the latter part of November there was practically no feed on hand at the DuRand elk ranch. The person in charge states that, during the summer of 1929, the elk were fed hay while on such short pasture. The following figures are all that are available as to the amount of forage fed up to the latter part of November, 1929. There were ninety tons of hay and five tons of corn fed, but, as above stated, the elk were in very poor condition.

"Shortly before November 20, 1929, eighty-six head of the elk were turned out onto the forest reserve by the owners. Their reasons were that they were unable to procure forage for the elk through their lack of funds and the scarcity of hay and grain available as well.

"Approximately thirty-five head of elk were retained in the private pasture of the DuRand Company and at this date there are also nine head of buffalo.

"There has been considerable unfavorable comment throughout the surrounding country, from sportsmen and the humane society, in regard to the poor condition of the animals and the manner in which they have been handled.

"On November 25, 1929, the district ranger organized a crew of twelve local ranchers and attempted to place these animals back as far as possible on the forest reserve or possibly onto the Judith River Game Preserve, before the winter conditions became too severe. It was feared that the animals would remain at hay stacks on privately-

owned land where they had already attempted to locate.

"The attempt to drive these animals back was a difficult undertaking. The riders gathered at the Sanford Holliday ranch on the North Fork of the Musselshell and the plans were to trail the elk out with a load of hay, the riders bringing up the rear and working surrounding country.

"This plan worked until the elk were practically bunched when the herd became very difficult to handle. A few of the older elk endeavored to stampede and although they were held in check for some distance they finally made their get-away. About fifteen head broke away from the main herd and although the riders were all old hands and exceptionally well mounted it was impossible to bring this small bunch back to the main herd.

"The riders proceeded with the main herd from the Musselshell Valley to the main range of the Little Belt Mountains. However, the herd was restless and it was an impossibility to handle them as they would either balk entirely or stampede. The main herd finally split and only about thirty-five head reached the main portion of the Little Belts. The remainder of the herd scattered in all directions and the riders could not bunch them again at the time. The thirty-five head that were placed in the Little Belts proper remained there but a few days, eventually returning with the elk that broke away to the vicinity of the DuRand ranch and located on other adjacent ranches and property. A few head, however, would occasionally graze back to the lower forest range.

"A few days later some of the local ranchers again moved about sixty head towards the main range of the Little Belts. These animals also stayed a few days but returned again to that portion of the ranger district known as the Buttes and to the neighboring ranches.

"The drives were therefore practically failures. There should be taken into consideration the facts that during this drive several good horses were ridden down and many risks taken by the riders due to the few inches of fresh snow which made it impossible for the horses to see badger holes and rocks. One of the riders was crippled for several days when his horse lost his footing on a steep, rocky hillside along which he was loping while turning some of the herd.

"Several of the men, including the district ranger, who took part in this drive, have handled wild horses on the open range in years gone by and state that the elk were faster and more sure-footed than anything encountered during their past experiences.

"Within a week of this last drive the elk were all back on privately-owned land in the upper part of the valley of the North Fork of the Musselshell and since severe winter conditions have set in since the first of January, the snow is so deep and crusted back on the forest reserve that the elk will not even attempt to feed there. They are playing havoc with good pastures and hay stacks. They have ruined fences and eaten up and destroyed so much hay that the ranchers appealed to the Game Commission."

Studying Game Parasites

SUCCESS of game restoration depends in large measure upon controlling the parasites that bring disease to wild animal life. That the school laboratory can prove unusually valuable in furnishing the scientific knowledge enabling man to establish control is shown by University of Minnesota students, who are studying parasites that attack fish, mink and silver foxes in order that epidemic diseases may be completely eliminated in the future.

The general zoologist finds many interesting things in studying such insect pests, because in the past scientists have been paying more attention to the species of parasites that bother man and his domesticated animals than they have to wild animals.

Dr. W. B. Riley, head of the department of zoology, University of Minnesota, reports that many important modifications have taken place under modern conditions, resulting from the great economic development of fish and game resources.

"Still another phase has been opened by the growth of the fur farming industry," said Dr. Riley. "The fur farmer soon finds that his roseate belief that wild animals are free from parasitic and other diseases is unfounded. As soon as he begins to concentrate these creatures under unnatural conditions,

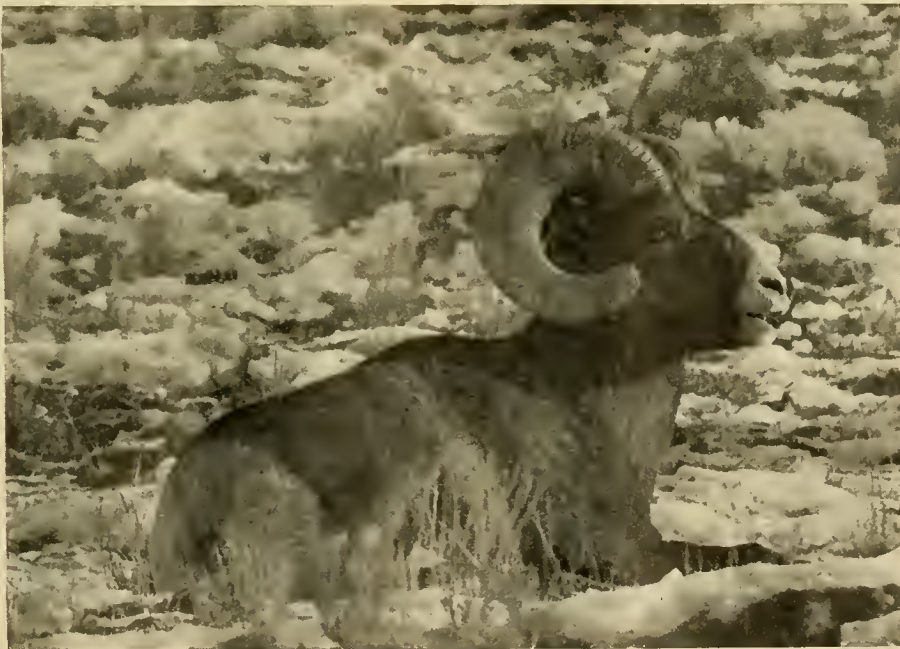
parasites that have been unnoted in the wild begin to take toll.

"The first and most important point in control of these enemies of animals is a knowledge of what they are, what their life history is, and how they are disseminated. It is for the answers to these questions that the zoologist is in cooperation with the agricultural experiment station. Zoology will keep on and develop methods of control as it has done in the case of many of the serious parasites of man and domesticated animals."

In accordance with Dr. Riley's research plan, five students are making an intensive study of the animal parasites of the mink. With the cooperation of growers in the state of Minnesota hundreds of animals are being examined and their ailments studied. One student who is at work on the silver fox has examined nearly 6,000 of these animals in the course of his investigations. Still others are working on the parasites of game fish with a particular view to learning their method of distribution and their effect on the growing fish.

"It is not by any means to be inferred that animal parasites are the only menace which the fur farmer has to consider," Dr. Riley said. "There are numerous bacterial diseases and dietary conditions which must be considered in the study of any fatalities among animals. It is through critical studies and accumulation of data from various fields that some of the problems of great practical importance are finally solved."

William Takes a Few Minutes at Ease



WILLIAM M. RUSH and William Sheep have connived to get this splendid picture of the ram at rest in the vicinity of Yellowstone Park.

Bill Rush is a member of the staff of the State Fish and Game Department in the elk study. Bill Mountain Sheep is also a Montanan.

Flies Killing Deer In National Park

MONTANA'S State Fish and Game Commission is making an intensive investigation of the cause of death among deer in Yellowstone Park. Loss of 66 deer has been registered between January 19 and April 30, and six additional animals were slaughtered by permit for laboratory examination. Scientists have reported to the Commission that the losses are caused mainly from a combination of fox-tail mouth, lung worms and larvae of the deer botfly. Under the leadership of W. M. Rush, who is employed by the State Commission and other agencies, to make a study of the elk situation in the state, has submitted an intensely interesting report on the Yellowstone deer loss. Bill Rush throws around a lot of language that even Noah Webster can't understand, but for the information of Montana sportsmen here's the report in full:

Seventeen deer (*Odocoileus hemionus hemionus*—Rafinesque) were autopsied in the laboratory at Mammoth during the past winter. Pathological conditions found are as follows:

Deer No. 3—Evidently killed by elk. Female fawn. January 19, 1930. Inflammation of stomach and intestines. Lung worms (*Synthetocaulus*).

Deer No. 4—Dead when found. Female fawn. February 15, 1930. Lung worms.

Deer No. 5—Dead when found. Female fawn. February 18, 1930. Very poor physical condition. Left rumen showed three circumscribed necrotic areas, one broken through—diffused peritonitis extending to abomasum.

Pericarditis result of trauma in rumen. Small intestine contained many worms. *Nematodirus spathiger*. Many lung worms (*Synthetocaulus*). Many wood ticks (*Dermacentor albipictus*). Few biting lice (*Tricholipeurus*); few sucking lice (*Linognathus*).

Deer No. 6—Dead when found. Male fawn. February 17, 1930. Mesenteric lymph glands greatly enlarged, possibly due to the presence of larvae of lung worms on their migration from the digestive system to the lungs. However, Bureau of Animal Industry failed to find cause. Lung worms. Heart muscle very flabby.

Deer No. 7—Dead when found. Male fawn. February 26, 1930. Fatty cysts under skin posterior to left ear. Cysts on arteries and veins near heart muscle. Flabby heart muscle. Cysts in larynx. Ulcers on lungs. Lung worms. Inflamed area blind end of cecum evidently caused by quantity of tin foil and gravel which had lodged there.

Deer No. 8—Dead when found. Male fawn. March 15, 1930. Heavily infested with lung worms. Heavily infested with larvae of the deer botfly. Very bad foxtail mouth.

Deer No. 9—Dead when found. March 10, 1930. Lung worms. Very bad foxtail mouth.

Deer No. 10—Dead when found. March 14, 1930. Bad foxtail mouth. Foxtail awns in mouth and pharynx. Larynx badly inflamed and swollen. Both lungs congested.

Deer No. 11—Dead when found. Fawn. March 21, 1930. Broken jawbone, cause unknown. Few lung worms. Larvae of deer botfly in guttural pouch and frontal sinuses.

Deer No. 12—Dead when found. Male fawn. March 22, 1930. Body eaten by ravens and coyotes. Fatty cysts posterior to ears.

Deer No. 13—Slaughtered for examination. Female fawn. March 24, 1930. Few lung worms. Dishrag in rumen. Back and sides nearly bare of hair, probably from mechanical injury.

Deer No. 14—Slaughtered female fawn. March 26, 1930. Heavily infested with larvae of the deer botfly in guttural pouch, pharynx and frontal sinuses. Many lung worms. Ulcer in wall of rumen.

Deer No. 15—Slaughtered female fawn. March 26, 1930. Heavily infested with larvae of the deer botfly. Heavily infested with lung worms.

Deer No. 16—Slaughtered—pregnant female. April 4, 1930. Heavily infested with larvae of the deer botfly. Lung worms.

Deer No. 17—Dead when found. Pregnant female. April 4, 1930. Very bad foxtail mouth. Lung worms. Larvae

of the deer botfly. Necrosis lower maxilla at junction. Incisors loose in sockets. Heavily infested with wood ticks.

Deer No. 18—Slaughtered. Female fawn. April 6, 1930. Larvae of the deer botfly. Lung worms.

Deer No. 19—Slaughtered. Male fawn. April 10, 1930. Heavily infested with larvae of the deer botfly. Lung worms.

The total dead deer found from January 19 to April 30 was 66 head. Six additional were slaughtered for examination. Dr. Frank Nelson of the Montana State Livestock Sanitary Board and Dr. William Logan of the Bureau of Animal Industry were here on short details in March and April. The Bureau of Animal Industry experiment station at Miles City, Montana, and the Washington, D. C., office of the Bureau of Animal Industry also examined some of the specimens. Apparently the losses are mainly from a combination of foxtail mouths, lung worms and larvae of the deer botfly.

The deer lung worm—The exact species of this parasite has not been determined. Dr. Hall, Chief Zoological Division, Bureau of Animal Industry, writes me, "The lung worm from the deer belongs to the genus *synthetocaulus* but its specific identity can not be established without further study."

From a study of the literature on the various lung worms it appears that the eggs pass from the host to the ground through the feces or directly from coughing or sneezing, undergo some development, and regain entrance to their particular host through the mouth from the forage eaten. Rainy weather is favorable to the development of the larvae on the ground and dry weather unfavorable. Congestion of the hosts on a range is obviously favorable to the perpetuation of the parasites.

From experimentation with domestic sheep it has been found that a few infected sheep will in time become free from the parasite while a large band will retain the infection.

Congestion of the lungs and pneumonia result from heavy infestation. Also the excretions from the worms interferes with digestion. A considerable amount of further study will be necessary to determine the life cycle of this parasite and the manner and place of infestation of deer.

The deer botfly—I believe this to be a more serious trouble than has been recognized. In the post mortem examinations we found larvae more than an inch in length and one-quarter of an inch in diameter within one-eighth of an inch of the brain cavity in deer. As many as fifty-two larvae were taken from the frontal sinuses and guttural pouch of one deer. The information Dr. Hall gives me on this parasite follows:

"The botfly larvae are *Cephenomyia*. Owing to the lack of comparative material no closer determination can be made at the present time. Hadwen in

Gallatin Sheep



HERE'S an unusual snapshot of mountain sheep, snapped by Deputy State Game Warden Frank R. Marshall on the West Fork of the Gallatin. Mountain sheep are equipped with a keen sense of smell that warns them of the approach of a human being, yet this ram was caught off guard.

the Journal of Parasitology, Vol. XIII, No. 1, September, 1926, gives some information on the life history of *Cephenomyia trompe*. This fly affects reindeer in Alaska. The summary of his information is as follows:

1. *C. trompe* on the wing from June September.
2. It can make long flights.
3. It deposits its larvae in the nostrils of the reindeer.
4. The larvae grow but little during the winter months. In the spring rapid growth takes place. The expulsion of the grubs from the nose is a very painful process.
5. After the larvae have fallen to

the ground they pupate rapidly. The pupal period lasts from 16 to 31 days or up to 56 days, depending upon external conditions.

As far as the particular species of *Cephenomyia* which infests elk and deer is concerned, there appears to be no information on these points."

The preventive measures recommended in Farmers' Bulletin No. 1330 for the control of the domestic sheep head-fly (*Oestrus ovis*) are being experimented with here. Salt troughs have been constructed of logs with holes bored to contain the salt. As soon as flies become active, pine tar will be smeared around the edges of the holes, so that the deer will get a smudge of tar on their noses in get-

ting at the salt. The tar prevents the fly from coming close enough to the deer's nose to deposit its larvae.

Symptoms—It is extremely difficult to detect signs of disease in deer until the disease is so far advanced that the animal is about ready to die. Partly closed eyes is perhaps the surest symptom of heavy infestation of the deer botfly larvae in the early part of the spring. Later when the larvae migrate from the sinuses to the guttural pouch violent sneezing and shaking of the head is noted. Sluggishness of movements, rough coat, drooping ears and poor physical condition indicate an unhealthy animal. Such symptoms as reeling, backing and falling down have not been observed.

It's Fly Time in Montana



THOUSANDS of tourists from all parts of the nation are turning their cars toward Montana for their annual vacation trips. Other thousands of resident anglers are enjoying the spring sport. Indications

are that the total number of licenses issued during the 1929 season will be passed this year. The demand on funds of sportsmen which make possible the restocking of lakes and streams is, in like manner, constantly growing.

Butte Club Thrives

THE annual financial report of the Butte Anglers' Club, oldest and largest sportsmen's organization in the state, as announced by William Carpenter, president, shows in detail the receipts and expenditures for 1928 and 1929 and reveals that the cash balance now on hand totals \$1,910.28.

Total receipts for 1928 came to \$3,868.07, while in 1929 these aggregated \$2,822.08. The opening balance in 1928 was \$1,811.74, bringing the total working balance to \$5,679.81, while in 1929 the cash balance was \$2,408.08, totaling \$5,230.16 as funds for the season's operations.

Receipts in 1929 were registered as follows: Membership dues, \$2,054; donations, \$660; interest on Liberty bonds and savings account, \$83.08; sale of obsolete equipment, \$25.

Disbursements during the year are given as follows: Salaries and traveling expenses, \$1,654.15; medical service for injured employe, \$737.90; fish food and miscellaneous supplies, \$391.84; truck expense, \$261.67; breeding troughs, \$217.11; electric motor, \$36; haulage and express, \$1.66; stationery, printing and postage, \$15; telephone and telegraph, \$4.55. The total disbursements for the year aggregated \$3,319.88.

Receipts in 1928 were as follows: Membership dues, \$1,888; sales of Liberty bonds, \$1,000; donations, \$923.50; interest on Liberty bond and savings account, \$56.47. Payments for work of the organization during the same period totaled \$3,271.73, and were divided as follows: Salaries and traveling expenses, \$1,760.12; new hatchery at Divide, \$680.10; Ford truck, \$250; fish food and miscellaneous supplies, \$320.40. Truck expenses, \$86.75; rearing pond expense, \$54; feeding fish, \$39.83; haulage and express, \$48.73; advertising, \$18, and stationery, printing and postage, \$13.80.

EXTRA PRECAUTION

"Did you put 'Handle With Care' and 'This Side Up' on all the boxes to go by freight?"

Pat (new shipping clerk): "Oi did, sur. An' for fear they did not see it on top, Oi printed it on the bottom, too."

Montana Fish and

G. T. BOYD, Great Falls..Commissioner

Jos. L. KELLY, Anaconda..Commissioner



Game Commission

W. K. MOORE, Billings...Commissioner

E. A. WILSON, Livingston..Commissioner

THOMAS N. MARLOWE, Missoula, *Chairman*

ROBERT H. HILL, Helena, *State Fish and Game Warden, Secretary*

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NO. 1.

MONTANA'S BEAVER PROBLEM

MILLIONS of dollars' worth of furs have been marketed from Montana's mountains. Other millions in valuable furs are being made possible by the fur farming industry. Yet the beaver problem, despite consistent and incessant efforts of sportsmen working hand in hand with the State Fish and Game Commission, is puzzling. The beaver is rapidly disappearing. Farmers continue complaints that beavers building dams and flooding their lands should be trapped. Under the Montana law this relief is extended. Farmers are required to secure permits from the Department, a deputy is then sent to look over the ground alleged damaged and if the case is found deserving, the permit is issued for taking a definite number of beaver. The number allowed trapped this year runs from a single beaver on one permit to 200 on another, covering a large tract of land. The season opens from the date of issue of the permit to May 1. But take a look at these figures! They are significant. In 1925 the total number of beaver hides tagged by the Department reached 15,902—the average value running between \$10 and \$20 per hide. In 1926 the total dropped to 9,377. In 1927 a further drop was recorded at 5,518. Then in 1928 came an increase to 8,076 and in 1929 the mark reached 7,278, the count for 1929 being incomplete because the furs are still being received at headquarters at the state capitol. A total of 590 permits had been issued up to June 15, in accordance with provisions made by the state law.

Four is that period in a child's life when it has perseverance enough to get a large quantity of talcum powder out of an apparently empty can.—Louisville Times.

PLANE SCATTERS BIRD FEED

AN airplane was used to scatter corn among a flock of some 1,500 wild geese stopping over at Britannia Bay, just west of Winnipeg. Touched by the gaunt appearance of the birds and knowing from the fact they were flying high when they appeared over the bay that they had experienced lean days while wintering in the south, W. R. Barnard, resident of the Britannia summer colony, inaugurated a community chest to purchase grain for the geese. Done up in flimsy bags that would break open on striking the ice which still partly covers the bay, the corn was dropped from the plane.

MONTANA AND CONNECTICUT

MONTANA anglers, eager for the thrill of hooking the big boys in the turbulent waters of crystal mountain streams, may have their troubles, yet it might serve as an educational treat if they take out time enough to glance over regulations being enforced in Connecticut. Fishing in Montana's streams and lakes is under supervision of the Legislature and the State Commission. It's different in Connecticut.

Twenty streams are now leased and stocked by Connecticut and are ready for public fishing. About 40,000 licenses were taken out when the season opened April 15. The leased streams alone contained more than 78,000 legal length trout which had been put in since last season, besides thousands left over from last year.

More than 300 other streams which are not under state lease but are open to public fishing had also been stocked by the State Board of Fisheries and Game. Officials report that, in addition to these streams, the state has acquired rights over more than 75 miles of tributary brooks which have been closed to fishing and are being used as breeding waters.

The new regulations, which govern fishing under the new and extensive system of stocking streams in Connecticut, require that anglers must keep within 10 feet of the banks of the stream. Where step-overs are provided, they must be used. Cultivated or open lands must not be crossed without permission. Building of fires is not permitted without permission of the fire warden and consent of the land owner. Spearing is not permitted in any state-leased stream without permission from the board. Motor vehicle parking is not permitted in front of bar-ways, or inside bar-ways without permission of the owner. Designated entrances and exits must be used. Posted instructions must be followed. The creel limit on most streams is 20 trout.

"Lord, send a fish so large that even I in telling of it afterward will have no need to lie."

SPORTSMEN ARE CONSERVATION SUPPORT

SPORTSMEN'S organizations of the United States constitute the most powerful influence behind all progressive wild life conservation effort. These organizations are numerous and carry on their activities in all parts of the country. They contribute unstintingly of their energies and money for educational work, game and fish propagation and law enforcement. Their substantial contributions to game preservation are entitled to the utmost credit.

I love all anglers; they be such honest, civil, quiet men.—Milkwoman to Piscator in "Kompleat Angler."

HUNGARIAN PARTRIDGE SURVEY

COMPLETE survey of the status of the Hungarian partridge in Pennsylvania is now under way in an effort to determine to what extent the birds have increased and spread during the last four or five years. Hungarian partridges were first released in Pennsylvania during the winter of 1925. Since 1925 over 6,000 partridges have been released. C. A. Hiller, in charge of propagation, who is supervising the Hungarian partridge survey, announced that incomplete reports show that officers located 206 covies totaling 2,216 birds. There are still a number of counties to be heard from.

BELLS PROTECT DEER IN CALIFORNIA

THE advantage of the machine age is being made apparent to even the wild life of California, according to the statement of the Division of Fish and Game of the Department of Natural Resources of that state. Deer in the high Sierras are ringing bells to attract rescuers when they fall into the flumes of the hydro-electric companies.

During the semi-annual migrations of the deer, first in the spring when they follow the melting snow into their summer grazing areas, and again when they seek the protection of the lower elevations, many animals fall into the flumes of the various electric companies operating in that area. In Eldorado county the Pacific Gas and Electric Company has stationed men along its flumes to rescue deer that may get into difficulties with the fast water. To make the work of rescue doubly safe, the power company has installed a system of electric bells along the flume. Any deer falling into the water comes in contact with the bell system, and the nearest flume tender is called to the spot. In this way the animal is saved and any chance of a deer drowning by not being discovered by the flume tender is averted.

In a world all jumbled up with politics and revolutions, it is a glorious thing that there is such a thing as fishing.—Baltimore Sun.

ANOTHER TRIBUTE TO MONTANA

MONTANA has again gained national attention through unique conditions prevailing at the Nine Pipe Reservoir where thousands of bass, sunfish and perch, as well as waterfowl, are being propagated. This time the tribute comes from Dr. Hugh A. Brown, director of reclamation economics of the Federal Bureau of Reclamation at Washington, D. C. He writes in part as follows:

"Have you ever enjoyed the thrill of a hard and exciting battle with what you believe to be the largest fish in the stream and finally brought him safely into the landing net?

"If not, you may have such an experience awaiting you on any one of a score of the storage reservoirs constructed by the Federal Bureau of Reclamation to conserve water for the irrigation of arid and semi-arid land in the western states.

"With the more complete settlement and development of the Federal irrigation projects, the reservoirs created by the construction of the larger storage dams have assumed more and more importance in the social life of the project settlers and visitors, aside from their primary function as basins for the storage of irrigation water.

"They are entering increasingly into the life of the people as pleasure resorts and playgrounds, as bird sanctuaries, and as excellent fishing grounds, thanks to the cooperation of the Federal Bureau of Fisheries and the state fish hatcheries in stocking these great artificial lakes with many varieties of the finny tribe.

"Within the last few years millions of fish have been planted in the 40 or more storage reservoirs operated by this bureau. These fish include several varieties of trout, rock bass, large-mouth bass, sunfish, crappie, yellow perch, and other fish dear to the heart of the angler.

"Some of the trout caught in these reservoirs run as high as 15 to 18 pounds. Bass up to 9 pounds in weight have been landed by many a proud fisherman.

"But fishing is not the only recreation afforded by these reservoirs. In the high mountain country near some reservoirs the hunter may often find quail, rabbits, wild turkey, deer, and even bear and mountain lion.

"One of the reservoirs on a Montana irrigation project is eloquently described as a sportsmen's paradise. It is a favorite haunt of migratory game birds, especially ducks and geese and other aquatic fowl. These birds nest in great numbers along the lake shore and upon the islands within the lake during the summer months and furnish an abundance of sport for hunters during the open season."

A blemish may be removed from a diamond by careful polishing, but evil words once spoken cannot be effaced.—Confucius.

GAME KILL IN PENNSYLVANIA

MONTANA sportsmen who realize the demand for more extensive funds with which to preserve and propagate wild life, may well study the intensive conservation campaign being conducted in Pennsylvania. Millions of dollars have been expended in bringing back the wild life of that state and results are now being shown. A tabulation of hunters' reports for the last season reveals that Pennsylvania harbors an abundance of wild life. A remarkable kill of both large and small game occurred. More buck deer were killed than during any other season, the number of these wily creatures falling prey to the hunters numbering 22,822. During the preceding season 25,097 antlerless deer were taken. Twelve legal elk were killed. There were 447 black bears taken, which was an increase of twenty over 1928. Rabbits taken numbered 3,524,652, or an increase of about a million over 1928. The kill of squirrels, due to the serious lack of food, numbered only 455,264, a decrease of 469,736 under 1928. A month less hunting of raccoons also decreased the kill of this animal considerably; 28,838 raccoons were killed in 1929 against 41,009 in 1928. It is gratifying to note that the kill of wild turkeys increased over the preceding season, 3,834 being killed in 1929 and 2,362 in 1928. An exceptionally large kill of ringnecked pheasants was effected, resulting in an increase of over 68,000 over that of 1928. The past season's kill of ringnecks totaled 212,082; that of 1928 being 143,239; 222,186 bob-white quail were taken as against 195,110 in 1928—a decided increase. The kill of woodcock and other shore birds was increased considerably. In 1929, 72,666 were taken; in 1928, only 50,236 were taken. A slight decrease in the kill of wild waterfowl was noted. Only 45,008 waterfowl were taken in 1929 as against 58,822 in 1928.

"In ye shadowed pools beneath ye curling ripple—there finds ye speckled trout."

WILD LIFE OF THE NATIONAL PARKS

NATIONAL parks are increasingly valuable as game preserves and wild life sanctuaries and in furnishing fishing privileges to thousands of tourists every year, in addition to the environment they afford as places of recreation and scenic beauty, reports Horace M. Albright, director of the National Park Service, who points out that, in establishing Yellowstone Park, Congress unknowingly created an enormous game preserve, the forerunner of the numerous fine national sanctuaries of today, and still the greatest in this country.

"From the standpoint of the visiting public, it is doubtful whether any natural features of the park, no matter how spectacular or beautiful, give the pleasure that is derived from the sight of large animals in their natural habitats of mountain forests or meadows," says Mr. Albright. "Wild life must be protected for its own sake as a national resource, for scientific study and also because it gives such supreme pleasure to park guests."

Bears, which for many years were seen only in Glacier and Yellowstone Parks, are now abundant in all but the smallest of these areas and three parks have grizzlies. Deer are numerous, particularly in Yosemite, Sequoia and Grand Canyon Parks; the largest herd, estimated to number 20,000 to 75,000 head, being found in Grand Canyon Park and the adjacent Kaibab Forest.

Mountain sheep and goats, black and brown bear, elk, buffalo and antelope are found in Yellowstone Park, bear and mountain sheep are found throughout Glacier Park and McKinley National Park, in Alaska, abounds with mountain sheep, the Alaskan brown bear and caribou.

Hard luck is a polite name for laziness.

WILD TURKEYS RELEASED

WISCONSIN is making an experiment in releasing wild turkeys in the hope that they may again become established as a feature of the wild fauna of the state. Vain hope is the pessimistic prophecy of most naturalists. While the wild turkey was once found in limited areas in southern Wisconsin and Minnesota, the pressure of civilization was too great and is disappeared. In the mountain and forest regions of the east and south there is less interference with its natural habitat, agriculture is less intense, climatic conditions are less rigorous, food is more plentiful and this noble native species still persists.

Elk Survey in Yellowstone Park



W. M. Rush

BILL ELK is getting along comfortably well in Yellowstone National Park. In fact, Bill Rush, otherwise known to his less intimate associates as William M. Rush, in charge of elk study in the park, reports that between 9,000 and 11,000 in the northern herd, exclusive of the Gallatin River herd, are doing quite nicely, thank you. Bill Rush has been employed by Mon-

tana's State Fish and Game Commission, in cooperation with the Park Department, Forest Service and Biological Survey, to make a thorough study of conditions so that Montana sportsmen may know definitely the problems which confront the State Commission. Mr. Rush has recently made an investigation of the elk situation in the Sun River country. His report will be published later in MONTANA WILD LIFE.

Here's the report covering conditions in Yellowstone Park:

Weather and Forage—March was rather cold and stormy, but sufficient warm days occurred to melt the snow from a large part of the range, thus uncovering plenty of last year's grass. April was somewhat warmer than usual and green grass was plentiful at the close of the month. All ground that was bare during January, February and the first half of March is very closely grazed. The vicinity of the Game Preservation Ranch, Gardiner, Mammoth, lower Blacktail Creek, lower Geode and Oxbow Creeks, the Hellroaring slopes and the Lamar and Slough Creek Flats are the principal areas where very close grazing took place. No permanent harm is done to the forage on these areas, as the ground was frozen, which prevented injury from trampling.

Condition of Elk and Losses—In general the elk are in good condition. More old and weak ones were observed in the vicinity of the Game Preservation Ranch than elsewhere, also more dead ones were found in this vicinity. The total dead found is 35, and it is estimated that the total dead from all causes since January 1st (except illegal killings) is 100. It is impossible to make a fair estimate of illegal killings for meat, but my guess would be about 50 head.

Diseases—Examinations were made of sixteen dead elk for diseased conditions, four of which were slaughtered for this purpose. Dr. Frank Nelson of the Montana Livestock Sanitary Board and Dr. William Logan of the Bureau of Animal Industry each spent a few days here and examined some of the speci-

mens. The results of the post mortem examinations are as follows:

No. 8—Old cow, died, flabby heart muscles, cysts, foxtail lesions in mouth.

Nos. 9 and 11—Blind cows slaughtered in field during extremely cold weather. Impracticable to make thorough examination.

No. 10—Four to five-year-old cow, died, mouth showed characteristic necrotic stomatitis lesions. Foxtail barbs in mouth.

No. 12—Old hull, died, throat infected, necrotic lesions in mouth.

No. 13—Old bull, hind leg broken, shot. Necrotic lesions in mouth, foxtail barbs in lesions, lesions in throat. Heart muscle infested with cysts (sarcocystis), heavily infested with lung worms (dictycaulus hadweni).

No. 14—Old cow, died, few lung worms. Extreme age.

No. 15—Old cow, died. Extreme age.

No. 16—Seven to eight-year-old bull, died, very advanced case of necrotic lesion in roof of mouth, extending through and completely filling nasal passage and sinus on right side. Jaws infested with foxtail barbs.

No. 17—Old cow, died, lung worms, heart infested with sarcocystis.

No. 18—Calf, shot, heavily infested with larvae of the deer botfly. Lower jawbones enlarged and showed necrotic areas from which both the organisms of lumpy jaw (actinomyces) and calf diphtheria (necrophorus) were found.

No. 19—Calf, shot, heavily infested with larvae of the deer botfly.

No. 20—Five to six-year-old cow, shot. Infested with lung worms. Heart muscle infested with sarcocystis. Heavily infested with wood ticks. This animal had been wounded in the shoulders some months previously, probably during the hunting season, and was in very poor physical condition.

No. 21—Calf, shot, 53 well developed larvae of the deer botfly were found in the guttural pouch, nasal passages and frontal sinuses.

No. 22—Bull, died, very old, foxtail lesions in mouth.

No. 23—Calf, died, foxtail lesions in mouth.

The principal causes of diseases in elk are (1) foxtail sores, through which the organisms that cause lumpy jaw and calf diphtheria enter, (2) lung worms, and (3) larvae of the deer botfly.

The life cycle of the elk lung worm has not been determined, according to the various authorities that I have consulted. With some species of lung worms that infest domestic animals, the eggs of the worm are hatched in the lungs, are coughed direct to the ground or pass from the lungs through the mouth to the digestive tract and are deposited on the ground in the feces. The resistance of the eggs to drying is very great and so they may remain on the ground to be carried in dust to an animal's nostrils or may be taken into the digestive system on the forage eaten, access to the lungs being through the blood or direct to the trachea during rumination. It seems reasonable to believe that a closely grazed range offers more favorable conditions for lung worms to spread than a range which was but moderately grazed. The excretions of numerous lung worms interferes somewhat with digestion, thus depleting the vitality of the animal.

The life cycle of the deer botfly, which belongs to the family cephonomya, is given as follows: the fly deposits the larvae alive in the nostrils of the animal during the summer. The larvae work through the nasal passages to the frontal sinuses (some were found in deer specimens within one-eighth of an inch of the brain), develop but slowly until spring when they descend to the guttural pouch and are coughed out on the ground. On the ground they change into the fly again.

Pine tar smeared on the animals' noses is the preventive measure employed for domestic animals and this is being experimented with here. Salt troughs made of logs with holes bored just large enough for the animal's nose to fit into and with tar smeared around the edges of the holes, are being constructed on the range.

It is recommended that every effort be made to improve the range around Mammoth, Blacktail, Gardiner and the Game Preservation Ranch. The following suggestions are offered: Re-

Find the Grouse



DEPUTY State Game Warden Jack Goldsby is a keen nature student, who carries his kodak with him alongside his six-gun. Here's an interesting picture snapped on the mountainside during the nesting period. The blue grouse looms up like a wild turkey.

removal of horses from these areas; removal of buffalo show herd; recultivation of game ranch to remove foxtail; reseeding of cultivated areas on acquired ranches to pasture grasses.

Something also might be done in relieving the Lamar and Slough Creek Flats by grazing the buffalo herds farther up the Lamar Valley.

Elk Counts—Four counts were made this year as follows: January, Count No. 1, in the vicinity of:

Buffalo Corrals	325
Cooke Ranger Station	125
Soda Butte	356
Lamar Flats	986
Slough Creek	990
Hellroaring and Cottonwood.....	1321
Cottonwood, Crevice and Bear.....	421
Lamar Flats, Tower Falls and Geode	1673
Goede and Lava	1130
Mammoth and Gardiner.....	375
Swan Lake	69
Game Preservation Ranch.....	410
Turkey Pen	76
Total.....	8257

February, Count No. 2, in the vicinity of:

Mammoth, south	176
Mammoth, north	440
Swan Lake	36
Game Preservation Ranch.....	66
Slough Creek Ranches.....	1110
Slough Creek and Blacktail.....	1167
Specimen Ridge to Blacktail.....	1141
Soda Butte and Slough Creek.....	569
Gardiner	385
Blacktail	1015
Crevice Basin and Yellowstone Canyon	428
East side of Yellowstone River outside park	847
West side of Yellowstone River outside park	330
Total.....	7710

March, Count No. 3, in the vicinity of:

Specimen Ridge	28
Little Specimen	34
Foot of Specimen	173
Lamar Falls	241
Horseshoe, north of Specimen Ridge	93
Mail Box	136
Yellowstone Bridge	53
Tower Falls	265
Geode	319
Crescent	32
Slough Creek	277
Slough Creek to Hellroaring.....	1496
Trail Creek	143
Dome Mountain	63
Slip and Slide	27
Cedar Creek	158
Section 20	119
Maiden Basin	12
Gardiner to Hellroaring.....	876
Mammoth to Turkey Pen.....	751
Game Preservation Ranch.....	526
Reece Creek to Mammoth (except game ranch)	481
Gardiner Bridge to Blacktail.....	495
Trail Creek to Deckard's Ranch.....	433
Soda Butte to Willow Creek.....	966
9-mile Post Tower Falls Road.....	110
Total.....	8307

April, Count No. 4, in the vicinity of:

Slough Creek	396
Ice Lake west of Gardiner River.....	139

Buffalo Corrals to Coal Mine.....	78
Crevice Basin and Pass.....	89
Mt. Everts	278
Mammoth to Blacktail.....	117
Upper Blacktail	315
Specimen Ridge and Lamar Flats....	580
Oxbow, Geode and Garnet Ridge.....	642
Reece Creek	16
Game Preservation Ranch.....	75
Cache Creek to Lamar Canyon.....	1535
Coyote Creek	90
Hellroaring to Slough Creek.....	1818
Blacktail to Hellroaring.....	748
Everts and Red Mountain.....	210
Cedar and Basset Creeks.....	67
Maiden Basin	31
Eagle and Bear Creeks.....	49
Antelope Creek	30
Total.....	7303

SUMMARY

Count No. 1:	
Inside Park	7847
Outside Park	410
Total.....	8257
Count No. 2:	
Inside Park	6467
Outside Park	1243
Total.....	7710
Count No. 3:	
Inside Park	6742
Outside Park	1565
Total.....	8307

Count No. 4:

Inside Park	7065
Outside Park	238
Total.....	7303

In Count No. 1, the area outside of the park on both sides of the Yellowstone River was missed. The area west of the river north of Reece Creek was missed in Counts Nos. 3 and 4. Slip and Slide Creek and Dome Mountain were missed in Count No. 4.

Every effort was made to avoid duplications and some territory was missed in each count. The elk were scattered in small bunches and in the timber to some extent during the April count. The March count would have totaled about 10,000 head had all the area been covered.

According to my own observations, the number of elk in the northern herd (exclusive of the Gallatin River) is between 9,000 and 11,000 head, which is under my estimate of 10,000 to 12,000 head made last year.

With a little better definition of areas for each man to cover and continued improvement in methods, I believe we can get reasonably close to the actual number of elk in this herd next year.

In the March count the bulls, cows and calves were counted separately whenever possible, and gave the following percentages: bulls 13.3, cows 71.3, calves 15.4.

Gallatin Hunters Shooting Doe Deer



THIS is not a picture of a couple of deer tied up on the mountainside emulating targets for a couple of Bozeman huskies, but an actual photograph of the manner in which many doe deer were killed when the open season was declared by the last legislature in Gallatin county, after efforts were put forth by legislators from that fertile area. But sportsmen have seen

enough. They have prepared a voluminous petition. At the annual meeting of the Bozeman Rod and Gun Club, out of an assemblage of more than 200 only two stood up as favoring the continuation of such slaughter. Fred B. Williams, president of the Bozeman club, is an enthusiastic opponent of such forms of alleged sport.

Montana Movies To Educate East

ONE of the most unique methods of announcing to the world the beauties, lakes, streams, fish and game of Montana is now under way by Montana's State Fish and Game Commission with Paul J. Fair, well known movie camera artist and scenario writer, in charge. Mr. Fair has been employed by the State Commission to take a series of especially arranged films depicting each of the varied activities of the Commission. Mr. Fair appeared at the annual meeting, May 23, and outlined the work which he has in hand. He suggested that an introductory film be prepared with ten films sufficient to make an entire evening's performance.

His recommendations to the Commission follow:

The films should show, not merely pictures of birds and mammals and fish, but they should tell of the need of proper management, to the end not only of increased and continuing supply, but of a supply balanced with conditions of available feed and cover. In cases where, by increasing or conserving the feed and cover factors, the supply can be increased, the pictures can illustrate these points. They should emphasize, however, that there must be a balance in seasonal feed, that is, the numbers of fish and game, particularly the latter, must be dependent upon the amount of feed available during the most critical period. Beyond that number the surplus should be utilized by hunting and fishing to prevent losses by other causes. Where game comes in competition with domestic stock during critical periods the importance of giving just consideration to game should be stressed.

The work of the Commission should be shown in managing and conserving the supply of native fish and game, their cooperation with sportsmen's associations and the federal government, their work in propagating and introducing various exotic species, the reasons for all these things and the complexities of the task. The sympathetic interest and cooperation of hunters, fishermen, and the general public must be appealed to and enlisted. There should be shown the need of this leadership and the necessity for pulling together by all agencies for the successful accomplishment of their common objectives, both by active interest and cooperation and, what is of equal importance, the making available of funds through adequate licenses and other means.

The films should tell the story that a continuing supply of fish and game does not mean simply a source of sport and food for local people, but of the attraction they are to outsiders, particularly easterners, both from the standpoint of sport and of aesthetic interest, and the fact that these resources alone are responsible for bringing into and leaving in the state annually large and increasing sums of

The Movie Man



Paul J. Fair

money, for the benefit directly of hotels, resorts, dude ranches, guides, packers, and many others, and indirectly benefiting all of the people of the state. In addition, such of these people as hunt and fish pay a much higher license fee than residents, which goes directly back into fish and game welfare.

The above, in a general way, outlines the policy and treatment of the series, as I see it. In building up these films it would be well to keep in mind their use in various ways, and to make them adaptable to these uses, either singly or in combinations to suit the various audiences.

A good way might be to make an introductory film of an historical nature showing the relation of fish and game to Montana history. The picture could open with various shots of scenery about the state to give an idea of its topography. Then would follow the original inhabitants, the Indians, dependent for food and shelter and clothing upon the fish of lakes and streams, the bison, the elk and the deer. The first white men were largely trappers and fur traders, lured by the hopes of the pelts of beaver and marten and otter. Then came the settlers, the miners, the first railroads—all of these people to a great extent dependent upon their rifles furnishing wild game for food during the period in which they were establishing themselves in the new country. The scenes would

show how intimate the relationship has been between the history of Montana and her fish and game. It would end with bringing out the fact that today, in surprisingly large measure, the state has retained its rich heritage of varied and interesting species. It might have as its title "The Land of the Shining Mountains."

This film could be used as an introductory film in a full evening program to be followed by other films on specific subjects. A list of what the latter might cover is as follows:

1. Trout and Grayling. Scenes showing the different species, both native and introduced. These would be really portraits of the various species, alive and swimming under natural conditions. Fish cultural operations from egg taking through all of the hatchery operations, rearing of fry, to planting, and ending with fishing scenes showing the taking of live fish under sport-in conditions with beautiful scenery backgrounds.

2. Warm Water Fishes. Bass, crappies, sunfish, catfish, etc., their propagation at the Fort Keogh station, planting and fishing scenes. The film would show the extension of fishing by the planting of these species in artificial bodies of water, such as reservoirs. (The latter, of course, would apply also to trout.)

Along with these pictures it will be possible to incorporate material showing how stream pollution affects fish life, the destruction of fish by irrigating ditches, and by the taking of all of the water from streams for irrigating, the effect of deforestation and forest fires on stream flow and fish life, the necessity of regulating fishing seasons and localities to permit fish to spawn and many other phases of the work. These being either unknown or little understood by a considerable percentage of the public offer a splendid field for education.

3. Game Farm. The remarkable start that has been made in propagating exotic upland game birds to supplement the native species and relieve the pressure on them. All the steps in breeding, rearing and planting of pheasants and partridges, ending with hunting scenes. This will offer a splendid opportunity to show constructive work of the Commission and the need for adequate licenses.

4. Native Upland Game Birds. The grouse, dusky, Franklin, ruffed, sharp-tailed, and sage, and also ptarmigan. The film would tell in its titles how the grouse are subject to cyclic fluctuations through disease, as yet beyond control, and how hunting except at the peaks of the cycles will threaten the species with extermination. Predatory enemies can be shown, and also winter feeding as an aid in carrying over critical periods. Dr. C. R. Thornton of Missoula has offered to cooperate in

securing hunting scenes with well-broken dogs.

5. Waterfowl. Native ducks and geese, both resident and migrant species, nesting habits, relation of cover, predatory enemies, breeding refuges, public shooting grounds, refuges during shooting season, planting of food and cover plant species, and the extension of breeding and resting grounds by artificial bodies of water, are all topics that can be developed.

6. Elk. This species by reason of the acute management problems it presents, is of great importance. The film should show the life history of the elk, through the year, its seasonal migratory habits, and the complications that have arisen by the usurping of what was its natural winter range by agriculture. It should be shown that while the summer range is capable of sup-

porting an immense number of elk, the numbers maintained should be sharply limited by the carrying capacity of the winter range, and that the only feasible means of raising these numbers of elk is by increasing the area of usable winter range. Hunting and killing of the surplus above the range capacity is the best and most sensible method of control. Ill-advised planting of elk where these factors are not given due consideration should be stressed also.

7. Large Game Mammals. The bison, moose, big horn, mountain goat, white-tail deer, mule deer, antelope, grizzly bear and black bear. These subjects should have something of their life histories told, and the facts regarding their conservation emphasized, that is, regulated hunting and utilization where numbers will permit, and absolute protection until that point is reached. It might be well to put in a good word for the bears, particularly the grizzly, on account of the scarcity of the latter, as game animals, and to discourage indiscriminate killing. At least two reels of film should be devoted to these large animals.

8. Predators. The cougar, coyote, wolf, bobcat, lynx and destructive hawks and owls. The damage they do, and how the Commission is cooperating with all agencies in reducing their numbers. This film might feature a cougar hunt with hounds.

9. The Fur Bearers. Beaver, muskrat, marten, fox, etc. The fur-ranching industry, how it is regulated by the Commission and its growing importance to the state.

10. What Montana's fish and game mean to non-residents. The value of these resources in attracting hunters, anglers, tourists and campers, and the money they leave in the state in comparatively large licenses, and with dude ranches, hotels, resorts, sporting goods stores, etc. The purpose would be to arouse the general public as well as the above classes to the importance of whole-hearted backing of constructive fish and game policies.

The above ten classifications of subject matter are presented simply as rough sketches of their details. Each of them must be expanded and worked into a scenario, but this I obviously can not do without more extended knowledge than the past three weeks has given me.

When I came here I had, I believe, a fairly good knowledge of the various species of fish and game which the state possesses. The amazing thing, to me, has been to learn of the relatively large numbers which still exist and the primitive environmental conditions existing over large areas. Montana has in point of numbers and variety the best stock of game of any state, and the best chance for building a firm foundation for managing it properly. But the best management plans are useless unless they are understood by and have the backing of the public.

The value of a comprehensive series of motion pictures if they are developed in the right way will be inestimable from an educational standpoint. They will be valuable alike in educating your own people and in telling the outside world what you have, what you are doing with it, and inviting them to come to Montana.

When Mr. Marlowe first wrote to me he spoke of making four or five reels, and this I estimated would mean a year's work. But four or five reels will hardly cover half of what should be done, and while in a year a large amount of material can be accumulated toward a more complete series, and some of them, like the fish films and the game farm reels completely finished the first season, I think it will take about two years to get the field work accomplished, and finish the cutting, editing and titling, in itself a big job and a very careful one.

It will be a tremendous task, but one well worth the effort and cost. No other state has the unique opportunities that Montana has, and if the work is done as it should and can be done, it will be of vast credit to all concerned.

Fur Bearing Gains

RAPID expansion of the fur farming industry in Montana will be depicted at the Montana Industrial Show to be conducted by the State Division of Publicity during the coming State Fair, August 18-23, through an exhibit which is being prepared by officials of the Montana Fox and Fur Breeders' Association.

While it is known that numerous muskrat farms have been started recently, Paul E. Haines, president, and George M. Reeves, secretary-treasurer of the State Association, are authority for the statement that the number of fox fur farms in Montana has at least doubled in the past year.

Haines and Reeves, who have been engaged in the breeding of silver black foxes for a number of years in the state, are enthusiastically striving to bring about the development of the industry in Montana and they state that Montana comes nearer to any other state to possessing all of the fur-bearing animals still in the wild state, and, aside from foxes, prospective fur farmers can obtain permits from the State Fish and Game Department for the trapping of such wild animals as fonnation stock for their farms.

They quote Dr. G. D. Schillinger of the U. S. Biological Survey, who was here last summer from Washington, D. C., as saying: "There is no doubt but that Montana offers better opportunities for fur farming than most sections of the country. Its climate is best adapted to the breeding of fur animals and to the finishing of furs, and it is practically free from the diseases which affect such animals."

The Montana Fox and Fur Breeders' Association, which numbers 33 members, will hold its annual meeting in Kalispell early in August, with an anticipated attendance of from 150 to 200. Two days of session will be held at which educational talks will be given by two or three representatives of the national association, and a couple of federal authorities from Washington. It will be in the nature of a summer school. The program will include a trip into Glacier National Park with the annual banquet in one of the park hotels.

Warning

By JAMES J. MONTAGUE

(News Item—A psychologist declares that people who are fond of fishing have undeveloped brains.)

If you think it is fun to repose by a brook

And hark to its musical flow,
While you dangle a fly or a worm on a hook

In the ripples that ripple below,
If it quickens your pulse when a loosely tossed line

Grows taut with a swift throbbing strain,
You had better be careful, for this is a sign

That you're just a bit weak in the brain.

To be fond of the song of the swift-spinning reel

As it plays out the line isn't sport,
But the vice of an idler, which has no appeal

To folks of the go-getter sort.
Only dull-witted loafers and drones and the like

Would wait in the warm summer sun
And chuckle with joy at a strong sudden strike

Or thrill when the battle was won.
It's the naughty, bad boys who play hookey from school

And are clumsy with text-book and slate,

Who are found by the bank of the leaf-shaded pool

Where the pickerel rise to the bait.
Their minds, being laggard at Latin and Greek

When Spring spreads her foliage once more,
Are calmly content with the song of the creek

And the grasshopper chorus on shore.
You may by some accident clamber to fame,

If you can not resist the imperious claim

As a number of persons have done,
Of a stream that is bright in the sun.
But when the psychologist gets you at last,

As he will in the end—he will find
If ever a look at a brook you have cast
You possess an inferior mind.

Newspaper Comment on License Increase

SPORTSMEN URGE FEE BOOST

(The Montana Record-Herald, Helena)

When sportsmen of Montana, representing 27 organized clubs, met in annual session at Helena May 23-24 and recommended to the next legislature that the resident hunting and fishing license fee be increased from \$2 to \$3 in order that the State Fish and Game Commission may be provided with increased funds with which to stock streams, build more game farms and strengthen law enforcement, they completed a commendable act. But while on the right road, they didn't go far enough. The fee should be at least \$5.

Figure it out on a basis of dollars and cents. Few fishing outfits cost the proud owner less than \$100. His rods, reels, tapered lines, flies, landing nets, waders, boots and all the rest run into money. Then add up the dollars invested in a hunting outfit, the leather coats, the jackets, several guns and pistols, hunting knives, boots and other accoutrement runs into a handsome sum. If he is a member of a hunting club the cost is increased. What percentage of the total amount invested for going after game is \$5? The license fee is simply a guarantee to the sportsman that he will get fish, fowl or game when he chooses to go after it—and unless the legislature sees fit not only to increase the fee to \$3, but boost it still higher, there will be little for the sportsman to shoot at unless adequate funds are supplied for restocking. Montana has gained a national reputation as a sportsman's paradise. Fish and game will not propagate fast enough under natural conditions to keep pace with the kill. Hatcheries must be added and operated to supply the increased demand. Montana has

only 27 game wardens to care for patrol work in the 56 counties. Land must be acquired for public shooting grounds. Duck food must be planted to insure the fall shooting and waters must be impounded for nesting areas. This vast program of conservation outlined by the State Commission can not be successfully carried out without additional funds.

Foresighted Montana sportsmen who have made a study of the trend of affairs realize that it is but a question of time until the management and control of state fish and game affairs will be absolutely divorced from federal domination. More than one-third the entire area of the state is now held in control by the federal government and these areas are untaxed. Approximately 20,000,000 acres are in national forests. Montana has an adequate number of red-blooded sportsmen able to make their own rules and regulations without being dictated to by federal bureau employees or having to write a letter to the Secretary of Agriculture, requesting his permission to take a fishing trip.

BOOSTING FEES FOR SPORTSMEN (Billings Gazette)

Sportsmen have proposed that the fees for fishing and hunting licenses should be raised from \$2 a year to \$3 or even \$5. Fish and game will become a more important Montana asset each year as good roads attract more persons to this state, so it will be quite generally agreed that the money now being spent for conservation and propagation is not sufficient for growth desired. However, there is some disagreement as to how additional money should be raised and expended.

Instead of a higher fishing and hunting license fee some suggest a fee of from \$2 to \$3 for fishing and a similar fee for hunting. This plan has merit. There are many who enjoy fishing but who never hunt and vice versa, so that they would prefer to see their license contributions turned toward improvement of the sport in which they participate.

It may also be an improvement if we invoked a system through which residents of a community would be assured that at least a good portion of their license fees will be spent in adjacent territory. Construction of rearing ponds would do this so far as fishing is concerned. If a portion of each license fee were to be set aside for use in providing a rearing pond along the fishing waters where the purchaser of the license hopes to find his sport we would have no controversy over the location of hatcheries. It is now quite generally admitted that rearing ponds are as important as hatcheries because fish not sufficiently reared can not survive when released. The nearer such ponds are to streams where the fingerlings will be released, the cheaper the restocking work.

Most sportsmen are willing to pay more money to improve the sport and each section of the state deserves an assured direct return. The State Game Commission tries to be fair in distribution of fish but a mathematical proof of such fairness is possible in a specific use of funds with regard to localities in which the funds originate. In this part of the state we are willing to pay a higher license fee, if we are assured of rearing ponds on the Boulder, Stillwater, or creeks where local anglers go to enjoy their pastime.

Two Fine Natives



THESE two fine natives of Montana, children of Mrs. Archie Day, are boastful of the two fine native Montana trout caught in Flesher Lake, which they are displaying. It's the out-of-doors, the training of Dad and Mother, and the education gained through nature contact, that helps make better folks.

Doe Grows Antlers

WHEN female deer start growing horns California authorities feel that they should no longer be privileged and they are not entitled to protection afforded the rest of their sex by the state conservation laws. A mule deer was killed by R. E. Pugh of Tipton, Tulare county, near a place called Big Meadows. Officials of the Division of Fish and Game in checking over the deer tags found that the animal was a female, yet possessed symmetrical antlers having about an 11-inch spread. The antlers were perfectly forked on both sides. Additional information indicated that the deer had every appearance of being a buck at the time when it was killed. Captain Macaulay, a game official, in passing on the case, declared that if does insisted upon freedom for their sex to the extent of growing antlers that they would have to take their chances of being shot during the open season for bucks.

He Saw His Shadow



HERE'S an ideal picture of a mar-mot or ordinary woodchuck, upon whose activities during February many weather mixers base their conclusions. After glimpsing his shadow this spring, he's now in the fields and feeding places, sunning himself, whistling to other members of his club and doing nothing in particular of benefit to the community.

Bird Protectionists Meet in Europe



Dr. Pearson

DR. T. GILBERT PEARSON, president of the National Association of Audubon Societies and widely known leader in the field of wild life conservation, sailed for Europe on May 2. Dr. Pearson's trip abroad is wholly in the interests of bird protection, and for the purpose of collaborating with European leaders in order to obtain closer cooperation between their respective countries.

In this connection he was invited to preside at the bird protective sessions of the International Ornithological Congress which convened in Amsterdam during the first week in June. Immediately following this congress, there was also a meeting in Amsterdam of the delegates of the various countries represented on the International Committee for Bird Preservation, of which Dr. Pearson is chairman.

Before his departure for Europe Dr. Pearson stated:

"A number of very important problems are claiming the attention of European bird protectionists. Foremost among these is that of securing concord among the various nations concerned with reference to an international treaty, similar to that ratified in 1918 between the United States and Great Britain. The Treaty of Paris in 1902 has admittedly proven ineffective, partly because of the failure to ratify by several of the participating nations, and partly because of the failure to formulate a scientific schedule which would prove most effective taking all the nations into consideration.

"In addition to the problem of an international treaty there is that of oil pollution on the seas which is, more and more, causing deep concern among those nations with coastal waters. This and the need for the systematic establishment of refuges for the hard-pressed wild waterfowl will come up for careful consideration by the delegates to the meeting."

Continuing, Dr. Pearson said:

"Not the least among the questions which came up for discussion was that of the prohibition of the sale of game birds, not actually hand-reared on estates or game farms. This, however, is a principle which never as yet has been regarded with any show of sympathy by my co-workers. Nevertheless, its ultimate acceptance is greatly to be desired, for the commercialization of wild game birds and animals can no longer be continued if we shall hope to maintain adequate breeding stocks in the various countries of the world."

PROOF POSITIVE

"Hey, where ya going in such a hurry?"

"I'm going to the fair."

"What fair? I didn't see anything about a fair today."

"Sure, here it is right up on top of the paper: 'Fair Today'."

There's nothing like a weddin'

To make a feller learn.

At first he thinks she's his'n

But later he learns he's her'n.

"My father's death was caused by a falling spade."

"You mean to say someone dropped a shovel on his head?"

"Oh, no! The ace dropped out of his sleeve in a poker game."

Earl A. Fry Wins Montana Thanks



Earl A. Fry

WHEN the Montana Sportsmen's Association met at Helena in its eleventh annual convention, one of the features of the two-day session was the advice and sound good-fellowship dispensed by Earl A. Fry of Seattle, representative of the E. I. DuPont de Nemours Company. Earl Fry

is no stranger to Montana and the west and before the session was concluded he and his company had been given a unanimous vote of thanks by the association membership. Regardless of the fact that he is associated with a powder company, Fry and his superior officers are thorough advocates of the conservation of fish and game. His lectures along lines of game farms, distribution of game birds and his moving pictures of Hungarian partridge propagation in Oregon, fishing in the Rogue River and the splendid southern quail hunt were deeply appreciated. Mr. Fry is a past president of the Washington Sportsmen's Association and one of the best known authorities on conservation in the northwest.

Mr. Fry estimated that if the average sportsmen spent \$30 to follow his hobby of hunting and fishing in Montana during the year, that more than \$2,670,000 was spent for sport in the state last year. Added to this would be the food value of the game and the recreational value of the chase to compute the magnitude of the industry of sport in the state.

He suggested that local clubs could interest themselves in solving problems of stream pollution, planting of fish and establishment of rearing ponds, establishment of game farms and liberation of game birds, hatching of surplus pheasant eggs, sponsoring troops of Boy Scouts, interesting civic clubs in

game preservation, obtaining cooperation with newspapers, assisting the Fish and Game Commission in its program, and starting a fish and game survey of the territory.

WITHIN THE CITY LIMITS

An Irishman in New York started what promised to be a large family. A baby came every year for four years and then no more. A friend said: "Pat, why is it your wife presents you with no more kiddies?"

"I don't want any more," says Pat, "they say that every fifth baby in New York is a Jew."

Leo (as strange girl passes): "That's what I call a modest girl. Notice how far down the hem of her dress is? Almost to her ankles."

Clara (daughter): "Don't be silly, boy. Something has slipped."

"Have you ever tried ethyl in your new car?" the dealer asked a local youth.

"No; I'm satisfied with Mamie," he replied.

May: "What sort of a chap is John?"

Dot: "Well, when the lights went out last night when he called on me, he spent the rest of the evening repairing the fuse."

Have the wind at your back, the sun before you, and do not let your line touch the water; that's the place for your lure.

Montana Shoot at Butte In July



C. H. Smith

TRAPSHOOTING enthusiasts of Montana will gather at the annual contest for state honors at Butte, July 18-19-20 and the majority of the clan will have moved their headquarters to the Copper City on July 17, which is practice day. The programs will soon be in the mails and members of the Butte Gun Club are working hard to make the event one of the most successful in

the history of the sport in Montana. Roy E. Tisdale, veteran secretary of the Butte Club, has been seriously ill for months and aid is being extended by all hands. C. H. Smith—who for more than 40 years has been secretary of the state association—and who for that entire time has been actively interested in trapshooting, is still on the job. He's an outstanding Montana sportsman. One of the events of the shoot will be the shootoff of clubs entered in the annual telegraphic trapshooting tournament conducted by The Montana Standard, which was won by the Helena Gun Club.

Wild Chickens Last Seen In '82

A. S. HOVEY, mining and civil engineer, with offices in the Union Bank building at Helena, believes he saw near Helena, in 1885, one of the last of the wild chicken, referred to by Lewis and Clark, the explorers, in their field notes of their journey through Montana.

Mr. Hovey is of the opinion the species, at least in Montana, is now extinct. Mr. Hovey saw a flock of the black and white chickens in Squaw Gulch, near Helena, in 1882. Since then he has not seen a wild chicken of that species and he says he has never talked with but one man, A. D. Mitchell of Helena, who has ever seen one and these were in captivity more than 40 years ago.

His article referring to an extinct black and white chicken which formerly were quite plentiful in Montana, follows:

"Have you seen a wild chicken, pure white, bespangled with jet black spots about the size of a dime? You have not, unless you are an old-timer, for this species were nearly extinct 50 years ago. They were plentiful here at the beginning of the 19th century, for Lewis and Clark report seeing large numbers of chickens, and that they were black and white, but they mention no other variety. This species is now extinct, at least in Montana.

"It remains for the ornithologists to conjecture upon their disappearance, whether winter killed, by disease or exterminated by the early gold-seekers, but the latter having all passed, none remains to tell the story.

"A. D. Mitchell of Helena reports seeing a pair in captivity over 40 years ago, being at that time a great curiosity as a rare bird. It is remarkable that the very first wild chicken that I should run across upon arriving in Montana in 1882 was a hen with a brood of chickens of this specie in Squaw Gulch, near Helena. A poor place to rear a brood of chickens.

"I did not realize then they were the last survivors of a nearly extinct species, and was surprised to find none that knew of such a chicken. The old-timers considered it preposterous for a pilgrim to tell them anything of the west. Some suggested it might have been a magpie or some other wild bird. Since then, having been traveling extensively the plains and wilds of Montana, Idaho and Wyoming and discovering but one other of this species near Gibbonsville, Idaho, in 1891 in an unfrequented place near the summit of the main divide and having made frequent inquiries, it is quite evident to me that this species is now extinct."

HAPPILY MARRIED

Grocer: "Well, Jones, I can tell you are married, all right. No holes in your socks, now."

Salesman: "No. One of the first things my wife taught me was how to darn 'em."

BIG FISH IN BIG HOLE

Vernon O. "Dutch" Middleton is the champion fisherman of Butte for the present season. In the window of the Wigwam pool hall is displayed the latest prize winner and the largest fish that has been brought into Butte since the 1930 season opened. It is a rainbow bow that weighed 10¼ pounds. Mr. Middleton caught the fish on a salmon fly and was more than 20 minutes in landing the prize with a light fly rod at the "45" bend on the Big Hole River.

Small-Mouth Bass In Kicking Horse

STOCKING of Kicking Horse Reservoir in Lake county with small-mouth bass has started with the liberation of 150 adult fish, transported from the Somers hatchery. The State Fish and Game Commission expects to raise many of these fish in the reservoir for the purpose of stocking suitable places in western Montana. Large-mouth bass now are being propagated in Nine Pipe Reservoir for the same purpose.

The State Game Board has been working for several years to secure small-mouth bass. Those with which Kicking Horse is being stocked were secured from L. O. Evans of Butte, who has a private pond near his summer home on Swan River.

The bass were caught by Foreman M. L. Matzick of the Somers fish hatchery, who said that when he was angling for them the fish would jump out of the water to a height of six feet. Sportsmen prefer them to the large-mouth variety because they are gamier and strike at a fly more readily.

Kicking Horse Reservoir is being enlarged to a depth of 25 feet and when fully extended will be almost as large as Nine Pipe. It will make a good place for rearing the bass as it will be easy to get them out for restocking purposes, it is said.

OUR WOODS

When all the trees have disappeared

Then man will pass away,

When woods are gone, the earth is seared

And man must rue the day.

Oh trees—the oldest things that live,

Upon this changing ball,

The worth to man—of all you give

Has ne'er been written all.

NO LEFT TURN

Here rest the bones

Of Emily Bright;

She put out her left hand,

And turned to the right.

Wife (at piano recital): "She has quite a large repertoire, hasn't she?"

Husband: "Yes, and that dress she has on makes it look worse."

"Since I bought a car I don't have to walk to the bank to make my deposits."

"Ah, you ride there?"

"No. I don't make any."

Alaska Bear Lose Protection

THE great brown bear of Alaska, the largest carnivorous animal in the world, is threatened with excessive slaughter under new regulations recently promulgated by the Secretary of Agriculture.

Heretofore the brown and grizzly bears have been classed as game animals with certain closed seasons and bag limit regulations and are so classed in the Alaska game regulations, but under the new regulations just announced practically all protection is removed so far as residents of the territory are concerned. Polar bear, black bear and the glacier bear are classed as fur-bearing animals. Except in nine areas referred to hereafter residents of the territory may kill bear of any species at any time without limit. In nine areas the regulations heretofore in effect will prevail.

The open season for the large brown and grizzly bear in these areas will be from September 1st to June 20th following, with a bag limit of three for the season, except on parts of the Kenai and Alaskan Peninsulas, where the limit is two. The areas on which this limited protection will prevail will be as follows:

1. Yacobi Island in southeast Alaska—this is a small island not over 20 miles in extent, bordering on the ocean east of Juneau.

2. The Alaska mainland from Glacier Bay to the Alsek River—about 50 miles in extent and 200 square miles in area.

3. The mainland from Yakutat Bay to Bering River—about 80 miles in area.

4. That portion of Kenai Peninsula comprising the drainage to Cook Inlet from the west.

5. All of Alaska Peninsula.

6. Shuyak Island—a very small island at the north end of the Kodiak group.

7-8-9. Three islands between Prince William Sound and the Gulf of Alaska.

This leaves the west side of Kenai Peninsula, all of Kodiak Island, all of the mainland from Kenai Peninsula to Bering River and all of the interior of the territory unprotected so far as brown and grizzly bear are concerned. Residents may kill bear in the restricted areas at any time when "about to attack or molest persons or property." Restrictions on non-residents remain the same as before for the whole territory.

One saving clause in the new regulations will be the continued prohibition of the sale of skins and trophies. The new regulations take effect July 1st.

American sportsmen will need to assert themselves to prevent early extermination of these great game animals in a large part of their range.

FIRE, WHEN READY!

Landlady: "I think you had better board elsewhere."

Boarder: "Yes, I often had."

Landlady: "Often had what?"

Boarder: "Had better board elsewhere."

Montana's Warm Water Fish

MONTANA'S State Fish and Game Commission has made possible the largest warm water pond cultural station in the world in the completion of the pond station at Fort Keogh in Custer county, where pike, pickerel, bass, catfish, sunfish, crappies and others of the finny tribes are raised under artificial conditions to supply the demands of sportsmen in the eastern portion of the state. In the cold waters of the mountains, at Georgetown Lake, Lake Francis and Lake Ronan, fish experts of the Commission are just rounding out their work of taking eggs from trout and grayling by artificial means through "stripping." This method can not be pursued with warm water fishes. They must be allowed to spawn naturally in ponds, the ponds drained, the minnows placed in other ponds and then planted in warmer streams where they thrive and provide the sport that thrills for residents of that portion of the state. Sportsmen who now crave the yank on the line in mountain waters well recall the day when they proudly strutted home with their strings of sunfish, catfish and bass.

Hundreds of anglers delight in fishing Montana streams for catfish, the favored bird of streams of the east and middle west. The Missouri, which is made up from Montana headwaters

Game Commission Meets in July

MONTANA'S State Fish and Game Commission will hold its next regular meeting at the state fish hatchery at Somers and at Kalispell, on Wednesday, July 9. The Commission will make an inspection of conditions at the hatchery and likewise the fish situation in Flathead Lake during this meeting. Petitions from sportsmen's organizations throughout the state will be considered and the ever-present mass of business regarding rearing ponds, fish screens, hatchery activities and other work of the Commission will be acted upon. Reports will be made by hatchery superintendents and the game farm management.

formed by the Madison, Jefferson and Gallatin, is their natural habitat. Most common and numerous of the catfishes found are the bullheads. Both the Yellow Bullhead (*Ameriurus natalis*) and the Black Bullhead (*Ameriurus melas*) are found in Missouri waters, though

the yellow variety is probably the most numerous.

Next in importance comes the Channel Catfish. This fish is also known as the "Spotted Cat" and the "Fiddler." His scientific identification is *Ictalurus punctatus*. The Channel Cat, the most widely distributed throughout the middle west and the most generally esteemed of all catfishes, is taken in great numbers each year. It is relatively small, finely flavored, attractive in appearance, trim and gamey. It rarely exceeds five pounds in weight, though it may attain a weight of ten pounds or more. The Channel Cat, as its name implies, likes swiftly flowing water but is not restricted to regions of strong current.

The Blue Cat, or Chucklehead (sometimes called the "Fulton Cat") is also found in the larger streams. This fish is the largest of the Missouri River catfishes. In fact, among all the food fishes of the middle west, it is rivaled only in size by the paddle fish (Spoon-bill Cat) and lake sturgeon. It frequents the deeper waters of the river channels, coming out into the shallow sloughs and backwaters in the spring. Some fishermen say that it prefers rocky bottoms.

The Yellow Cat (*Leptops olivaris*) or "Flathead," is found in middle western

Montana's Scenic Crags Prove a Wonderland for Eastern Folks

WHERE the jagged crags poke their noses into the azure skies, where the guide points out "the top o' the world," where the air is filtered through pine and balsam and fills the office-cramped chest with new vigor—that's where thousands of eastern sportsmen are headed this summer. That's why Montana's fishing, hunting, hiking, and resting are constantly gaining in favor. High on these mountain trails visitors crave the sport offered by countless dude ranches operated by Montana men who know the significance of western hospitality. Here's a guide with the pack train, accompanying the saddle horse brigade, giving himself a look across canyons of virgin timber, into pictures that God painted in Montana's out-of-doors.



rivers. It is also frequently known as "Mud Cat." It attains nearly as great a size as the Blue Cat. The fall of the year is considered the best time to take the Yellow Cat and it is usually captured with live bait. The Yellow Cat is considered very strong and quick and very predaceous, roaming in the channels but preferring the more sluggish waters. It is likely to be found about garbage dumps and the mouths of sewers, being attracted to such places, no doubt, because it feeds on small scavenger fish.

The Spoonbill or Paddlefish is also a member of the catfish family. The Spoonbill is valued for its food, used both fresh and smoked, and especially for its roe, which is made into caviar. It is of peculiar general interest as a species and is almost unique, being markedly different in form and structure from any other fish now living except a single species occurring in certain rivers in China. Sharklike in form, but not in behavior or in quality of meat, it ranks as one of the most estimable aquatic resources. At times it has seemed on the verge of extermination, yet it apparently shows remarkable powers of endurance and recuperation. Since the roe of an individual fish may weigh from 10 to 15 pounds and is sometimes worth as high as \$2.00 per pound, a large Spoonbill may represent a very valuable catch.

In the past the flesh of this fish appeared on the market as "sturgeon." The Spoonbill is found in numbers in the Missouri and lower Platte Rivers.

In some localities a big member of the sunfish family is known as the crappie, and by many other names in various sections of the country. In some places he is confused with his cousin or uncle, or what other relative, the calico bass. But whenever or wherever caught on light tackle, the crappie is a game fish in every sense of the term. He may be ignored by the lofty bass fisherman, or even considered a nuisance by him who fishes for other larger game; but he "fills the bill," and the skillet, for the fisherman who goes after and fishes for the crappie.

Whether a fish is gamy depends somewhat on the state of mind of the angler, who generally wants what he goes after and is not satisfied with any substitute. This is aptly illustrated by the old story of the darkey who went catfishing; he sat on the bank and smoked his corn-cob pipe and watched his cork float—a perfect example of the contemplative angler—waiting for the signal that his favorite fish was nibbling at the bait; suddenly the cork, without preliminary warning, disappeared from sight, and the rod dipped and swished as a gallant fish, hooked at the strike, started to make off with the entire outfit; this galvanized uncle into action and he forthwith proceeded to haul in, hand over hand, a lordly black bass of three pounds in weight; disengaging the hook, he threw the fish back into the river; as he did so he spat and said, "When I goes cat-tin', I goes cattin'."

"Did y' know Mazy Brown was a-goin marry Rastus Dixon?"

"Lawd-a-massy, chile, dat nigger'll leave her 'fo her weddin' ring turns green."

Hatcheries Are Filled With Eggs

MONTANA'S 14 fish hatcheries are filled with spawn taken from the stations at Flint Creek on Georgetown Lake, Lake Ronan and the new station at Lake Francis near Valier. According to the count of game fish eggs taken from the famed Flint Creek station, the largest of its kind in the world, the total eggs taken thus far this season have reached: Native trout, 31,885,316; rainbow trout, 304,816, and grayling 5,064,344. The season has been late and the water low, hence the game fish began spawning late at Georgetown, yet with this unusual egg-take during an unusual year, Montana fishermen will be assured of millions of fingerlings for restocking purposes.

Grayling Produces 12,693 Eggs

SOME interesting data and perhaps the first of its kind in Montana, has been procured by Kenneth MacDonald, foreman of the Georgetown Lake spawn-taking grounds above Anaconda. In making a careful check of the number of eggs produced by the average native trout and the grayling, Mr. MacDonald finds with 539 female natives handled, a total of 984,312 eggs were produced or an average of 1,830 eggs for each trout. Of the 16 grayling stripped at the station, 203,088 eggs were obtained, or an average of 12,693 eggs to the fish. This illustrates in part, J. W. Carney, Chief Deputy State Game Warden says, why the grayling is such a hardy and reproductive fish.

Mr. MacDonald states in a letter to the State Department that grayling eggs have been shipped to Michigan and also to Oregon for the whitefish and salmon trade.

The Georgetown spawning ground is one of the largest in the world and besides supplying eggs for all Montana hatcheries, large shipments are made to practically all western states and to many eastern states.

Montana Sportsmen to Fight

THE following significant editorial is reprinted from The Montana Record-Herald of May 22, preceding the annual convention of the Montana Sportsmen's Association:

"Helena extends her hospitable arms to members of the Montana State Sportsmen's Association, which opens the eleventh annual meeting at the Placer hotel tomorrow, continuing through Saturday, and while welcoming these outstanding men of the state, compliments them upon their announced determination to keep the organization intact, free

from entangling alliances with eastern publishers, free from domination by any federal bureau and insistent upon retention of their own identity as a Montana organization.

"Montana has some 15,000 miles of turbulent trout waters upon which eastern anglers cast covetous eyes. Montana has between 4,000 and 5,000 lakes, which, like the streams, must be kept stocked with fighting game fish to meet the demands made by 82,000 residents who bought licenses last year in addition to thousands of tourists attracted to this vacation land. Greater revenues with which to keep pace with these demands are mandatory. Residents are now paying but \$2 for 12 months of sport and the department is being maintained solely by sportsmen without financial assistance from the state. Meanwhile Montana's fish and game has become of national import, serving as a state asset that means industrial dollars.

"While eastern organizations whose objects are laudable in attempting to cleanse polluted streams, bring back the game that has gone and restore the devastated areas created by intense civilization, are reaching out to enlist Montana in the cause of these stricken areas, eastern tourists are turning the noses of their cars toward the Treasure State. Montana has everything the eastern sportsman wants, yet that same eastern state has little that Montana demands from the standpoint of fish and game. Hence affiliation seems ridiculous. In like manner, federal bureaus, whether it be the Biological Survey or the Forestry Department, are extending the long arm of protective control in an effort to dictate state management of natural game areas and natural nesting grounds of migratory waterfowl. If corrective measures are required in Montana, the sportsmen of Montana are fully capable of making them through legislative act. If bird refuges are required, Montana sportsmen will be quick to respond without the necessity of federal advice. No organization can attain heights of success under dictatorial leadership of men affiliated with bureaus or departments whose intent is that of curbing activities of the state organization in such measure as to simplify bureau victories.

"Since the days when Lewis and Clark trekked across the Land of Shining Mountains, since the golden days when trappers and traders blazed Montana's trails, the Treasure State has been a land of square shooters. The Montana Sportsmen's Association is maintaining the prestige and purpose of their predecessors."

A couple of "sweet young things" from the effete East decided they would go horseback riding, and Angelo asked one of them whether she would prefer the flat English saddle or the western saddle with a horn. "The flat saddle," said the girl, "because we ain't going to ride in any traffic and won't need a horn."

"What am you doin' now?"

"I'se an exporter."

"An exporter?"

"Yep, the Pullman Company just fired me."—American Boy.

Tolling the Buffalo in Montana's Old Days

By R. B. BUCKMAN



THE traits, ways and characteristics of the Indians that formerly inhabited our western plains form an exceedingly interesting subject of investigation and study. Our national government has been for a long time gathering a fund of information about them which must eventually prove of inestimable value to the student of anthropology and sociology. Great ingenuity was certainly displayed by these primitive Montana warriors in their methods of obtaining game, and meeting their other necessities of life. There, for instance, was their ruse of "tolling the buffalo."

The animals, which once roamed our prairies in great numbers, constituted the chief source of subsistence with many of the tribes of the plains, and hence were the principal object of the hunt with them. They set about their capture in various ways, one of which was by tolling them. Some of the chiefs of the early days are said to have become very skillful in carrying out this ruse, which they went about as follows:

When a herd of buffaloes was sighted, and the hunt agreed upon, it was followed until it came into the vicinity of a high cliff. Then one of the chiefs, who was to do the tolling, concealed himself in a buffalo robe and gradually crawled up through the grass, until he was in the vicinity of one of the bulls leading the herd.

As soon as the animal raised its head, and detected his presence, he began to slowly creep away, as though in fear. If this was deftly done, the curiosity of the creature was sure to be thus aroused, and it would begin to follow, to investigate more closely the meaning of this strange apparition in the grass. As it did so, the mysterious something retreated still farther, and was then followed at a quicker pace.

Soon other bulls took up the lead, and in a short time the whole herd was in motion, moving toward the cliff. Always the pace was accelerated as the unwonted object in the grass moved on, until at last the vicinity of the cliff was reached.

Then came the strategic moment, requiring cool nerve, agility and presence of mind such as few possess, for the tolling warrior in the lead, hemmed in as he was in the narrow space between the advancing herd and the edge of the cliff, must now spring up out of the grass, cast aside his dissembling robe, and dash away to safety as best he could before he was overtaken and trampled upon by the advancing horde of animals, for at this critical moment a throng of his Indian confederates in the rear of the herd rose like magic from their concealment at a concerted signal, and began waving their blankets and shouting at the top of their

voices, till the bison were frenzied with fright, and dashed ahead in wild confusion.

A mad and ungovernable panic was thus created in the herd, those in the rear pressing on those in front, till all were crowded over the cliff in a struggling, seething mass, only to be killed outright in their fall, or so injured as to become an easy prey to the lances of the hunters pursuing them.

Great numbers of these animals were killed in this way by the Indians of the plains, every year. There were many of these buffalo cliffs used by the Indian hunters for centuries in Montana, at the base of which were to be found the bones of animals so destroyed to the depth of several feet, while the hair from their hides lay like felt upon the ground around. Such was the Indian method of tolling the buffalo.

Long and lavishly the hunters feasted after one of these buffalo stampedes had been successfully accomplished. For days they toasted the juicy steaks over their campfires till all had eaten until they could eat no more. Then several of the remaining portions of the meat were dried and stored for future use. But vast quantities of it were wasted, nevertheless, which could easily have been saved.

So long as the buffalo roamed our western plains in countless numbers, the Indians lived a life of comparative plenty and ease. Francis Parkman and other distinguished writers of those days, who spent much time among their villages and had abundant opportunity

to observe, in describing their daily round of existence draw a most attractive picture of their circumstances. But as the buffalo began to fail them, due to their ruthless onslaughts upon them, as well as those of the white hunter, who was quick to see the advantage offered, and to make good use of it, their situation changed.

Less and less grew the buffalo, while their carcasses, slaughtered without bounds of reason, strewed the plains, and their scattered bones lay bleaching in the sun on every hand. Then came the days of mourning and want for the Indian, for his best possession, his chief source of food supply, was gradually taken away from him, never to be restored to him again. It was indeed a pitiful figure which the Indian cut, after the buffalo were gone!

But we of today can not with justice censure the Indian hunter, or even the white hunter, of the early days of the plains too harshly, for, though we may not realize it, we, too, of the present, are not wholly free from blame upon a similar charge. The wanton and unreasonable slaughter of wild life is not confined to the days that are past, by any means. Even among us, and the more is the pity, since by this time we should have learned better from the experiences of the past, there are those who do not stay the hand of destruction, long after the bounds of reason have been passed.

Surely, this is more culpable among us, who have been fully informed of the folly of it, than among the untutored Indians of a former day! Certainly, we must do everything in our power to preserve the wild life yet remaining to us, with which nature has so bountifully stocked our lakes and woods. It is one of our very best assets, and must not be thoughtlessly sacrificed.

And our native forests, too, must be protected from further widespread destruction by forest fires. It is almost unbelievable that millions of dollars' worth of forest products should be suffered to go up in flames, every year, as the result of carelessness alone. But this is not the worst of the matter, since wholesale destruction by fire is to settle far more weighty matters than mere poverty and wealth. If the process is to be ruthlessly continued, the issue will eventually be whether Mother Earth can continue to maintain life, as at present, and not become more and more waste and barren.

It takes thousands of years to accumulate the humus in the soil which fire destroys in a single day, and without which life is impossible. One or the other must rule, here, eventually, life or fire. Both can not be master and survive. The ravages of the fire fiend we must challenge, and overcome.

Should the old time hunters of the early days of the plains be blamed for their destructiveness? Yes, but that is an issue of the past! A thousand times more important is it that we of today should hold our own, conduct blameless of the same charge!

Scat!



PURPLE cows and pink elephants have been known to have been seen associating with striped boas and playful pachyderms, but this ring-tailed whatnot shown above actually makes his home in Montana. In case you don't recognize the creature with the big eyes and long appendage, it's a cacomixtle, otherwise known as a bassinicus astutus or ring-tailed cat. The cacomixtle lives in Livingston, in captivity, where the picture was taken by Bill Rush. Cacy is not a native of Montana.

The Careless Smoker

A fool there was and his pipe he lit
 (Even as you and I.)
 On a forest trail where the leaves were
 fit
 To become ablaze from the smallest bit
 Of spark—and the fool he furnished it
 (Even as you and I.)
 The forest was burned to its very roots
 Even beneath the ground.
 With the flowers, the birds and the
 poor dumb brutes,
 Old hoary oaks, and the tender shoots
 Which might have made logs but for
 such galoots,
 Allowed to wander 'round.
 The lumberjack has now passed on,
 His pay-day comes no more,
 And the screech-owls haunt the camp
 at dawn
 Where the cook's tin pan woke the men
 of brawn;
 But the mill is silent, the trees are
 gone,
 The soil and the forest floor.
 A deadly sight are those hills of rocks
 Which once were beds of green;
 No hope for the human, no food for
 the flocks;
 The floods must be held by expensive
 locks,
 While the harbor is silted to the docks
 The ships no more are seen.
 But the fool smokes on in the forest
 still,
 Leaves campfires burning, too,
 While the patient public pays the bill
 And the nation's wealth is destroyed
 for nil.
 If the law doesn't get him, the devil
 will—
 Smoker, it's up to you!

Beavers

A FEW years ago the beaver was nearly extinct in all but a few of our western states. Few Americans had ever seen a live beaver or a beaver house. Fewer beaver skins came from Canada, and the fur grew very expensive.

Michigan decided to do something about it. The state conservation department made and enforced a closed season on beavers, and carefully planted colonies in strategic locations.

Today the animals are found in large numbers in many counties where they had entirely disappeared. In some districts they have increased so that their dam-building operations have flooded roads and undermined railroad beds. Many are being removed to wilder parts of the state where they can do less damage.

Similar results have been attained in upper New York State.

Here is another striking example of the way wild life will multiply and replenish the earth when it has a fair chance. Americans have many other opportunities for conservation of this sort.—Butte Daily Post.

Bunker: "My doctor tells me I can't play golf."

Clara: "So he's played with you, too?"

A Butte Fish Story

A FISH that traveled more than 25 miles to the water mains was pulled out of a pipe joint on West Copper street at Butte by a plumber after it had shut off the water supply on one side of the flat, according to a Silver Bow county story. The fish was about three inches long. It had apparently perished only after it had arrived in the plumbing on Copper street.

John S. Wulf, realty man, tells the story.

"We were notified that the water had ceased to flow on one side of the

house," Mr. Wulf said. "A plumber was called. He could make nothing of it until he began to disconnect the pipe. The fish was found jammed into the connection and apparently only recently killed by the pressure and lack of air. The fish was still fresh."

The fish, it is believed, came all the way from the Big Hole River through the water mains to the reservoir and was still chipper enough to make its way into the mains and finally into the West Copper street piping.

"This is a fish story that isn't a 'fish' story," Mr. Wulf avers.

Big Boys Strike at the Head of the Riffle



HERE'S another Montana beauty spot where crystal, tumbling waters stir the ambition of fishermen, where the cool, calm summer days chase the winter blues away. This is but one of the many thousands of

trout streams which are being kept stocked with game fish by the State Department in order that residents and visitors may enjoy the natural heritage threatened with depletion.

Montana Sportsmen's Association

PROGRAM FOR 1930

FOLLOWING is the program of the Montana Sportsmen's Association for 1930. In order to put it across the sportsmen of the state must co-operate in every way with the Fish and Game Department and with the Association, state leaders declare.

1. An educational campaign to further good sportsmanship and to protect and preserve the wild life of the state will be conducted in schools, Boy Scout troops and 4-H clubs. Obedience to the laws of the state will be stressed, and the advantages of so doing pointed out.

2. The Montana Sportsmen's Association will work in every possible way for an increase in the hunting and fishing license fee.

3. Full cooperation with the State Fish and Game Department in the matter of public shooting grounds will be given.

4. The Association will cooperate wherever possible with local civic organizations in the establishment of public camp grounds and parks where wild life may be seen.

5. The Association will aid in the establishment of a system of migratory bird refuges.

6. Every effort to build and maintain rearing ponds will be made by the Association.

7. A system of cooperation with agencies which suppress forest fires will be worked out, especially in the matter of education in regard to care with fire in the woods.

8. The Association will aid the Fish and Game Department in the Common Enemy Control contest.

9. The Association will aid in enlarging the circulation of MONTANA WILD LIFE, official publication of the State Fish and Game Department.

10. The Association will aid the Garden Club Conservation Committee in saving the native wild flowers of Montana.

11. The Association will aid in wild life exhibits at fairs.

DUES ARE DUE

WITH the coming of summer and the necessity for an enlarged program on the part of sportsmen, the old cry of dues in the State Association must again be raised. Several of the clubs of the state paid their 1930 assessments at the annual meeting

in Helena last month, and dues are now payable to the Secretary at Missoula.

With the legislative program contemplated in regard to raising of the license fee and in abolition of salmon spawn as bait, the Association has need of all the assistance that can be given, in order that it may better aid the State Fish and Game Department and through it the hunters and fishers of Montana.

Following is the list of dues, based on the membership of the individual clubs:

Clubs with 300 members or more.....	\$50.00
Clubs with 250 to 299 members.....	45.00
Clubs with 200 to 249 members.....	40.00
Clubs with 150 to 199 members.....	35.00
Clubs with 100 to 149 members.....	30.00
Clubs with 75 to 99 members.....	25.00
Clubs with 50 to 74 members.....	20.00
Clubs with 25 to 49 members.....	15.00
Clubs with less than 25 members..	10.00
Individual annual memberships (not included in clubs).....	1.00
Memberships to due ranches, firms, etc.	10.00

TOOLE COUNTY CLUB GROWS

ONE of the newest clubs in the state, the Toole County Sportsmen's Association, with headquarters at Shelby, has made amazing strides since it was organized in March. It started with 26 members, and a report to the State Association shows that it now has 211 members, and that they expect to have 300 before fall rolls around.

AT TWIN BRIDGES

AN interesting meeting was held at Twin Bridges last month, when the State Secretary visited the Rod and Gun Club there. Discussion of the proposed Madison Bird Refuge, covering five townships on the Madison Forest, was led by F. T. Carrol of Sheridan. The club indorsed the refuge. Senator M. M. Duncan of Virginia City was one of the speakers at the meeting. He praised the work of the Fish and Game Commission and spoke in some detail of fishing along the Madison River. Officers of the Twin Bridges club are H. A. Pease, president; Frank Paul, vice-president, and J. C. Seidensticker, secretary-treasurer.

DUCKS AT SCHULZ FARM

POSSIBILITIES of establishing a Rod and Gun Club in Sheridan were discussed when the Secretary visited that town. Prominent sportsmen seem to favor the idea. An interesting sight in the town is the fish pond of Otto Schulz, well known sportsman and stockman. On this pond a dozen wild mallards were floating, and several nests were reported. The hen mallards lay their eggs in Mr. Schulz' feed rack, he said. Wild geese are also to be seen on the pond.

MEETING AT FORSYTH

THE Southeastern Montana Sportsmen's Association met in Forsyth May 29 with many clubs represented. It was the annual meeting of this district group, and was well attended. A golf tournament on Memorial day, boxing matches and other entertainment were featured.

TROUT IN FLATHEAD

FISHERMEN in the Flathead country are reporting good catches of bull trout and black bass, in the Flathead River near Kalispell and Columbia Falls. Fay and Sam Loveall of Columbia Falls each took bull trout that weighed more than 17 pounds in the Bad Rock Canyon opening day. Many catches of black bass from the lower reaches of the river are reported. Dr. J. F. Keller is president of the Flathead Game Protective Association, and Howard Knapp is secretary. Harry Stanford of Kalispell, taxidermist, says that several fine bear pelts have been taken in the region near there this spring. Other bull trout fishermen who catch the big boys to save the little

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fish include Ben Cramer of Polson, who specializes on trout of more than 10 pounds in weight, and Dr. F. G. Dratz and Donovan Worden of Missoula.

WATCH SHOOTING GROUNDS

R. P. STOLL, Frank Rose and Leo H. Hill of St. Ignatius are among the leaders in the sportsmen's club there. These men have had a considerable weight in fish and game deliberations on the Flathead reservation, and are especially interested in the new state shooting ground at Kicking Horse Reservoir, recently acquired by the State Fish and Game Department.

CELEBRATION AT POLSON

A ROD and Gun Club meeting at Polson May 20 became almost a celebration in honor of the leasing of the Flathead power site to the Rocky Mountain Power Company. Speakers at the banquet included J. F. Hendricks, Superintendent of the State Game Bird Farm at Warm Springs; Thomas N. Marlowe, Chairman of the State Fish and Game Commission; Robert H. Hill, State Game Warden; John C. Frohlicher, Educational Secretary, and J. J. Harbert, Mayor of Polson. The trout for the banquet were caught in Flathead Lake by Mr. and Mrs. Ben Cramer.

CLUB AT REDSTONE

ESTABLISHMENT of a Rod and Gun Club at Redstone, in northeastern Montana is indicated in a letter from S. P. Cornelius, merchant of that place. The Redstone sportsmen are particularly anxious to improve shooting of game birds in northeastern Montana.

FOR WILD FLOWERS

MRS. CHARLES WILLIAM LEAPHART of Missoula, vice-chairman of the Montana Conservation Committee of Garden Clubs of America, has written to the Secretary as follows:

"I am writing you in the interest of the preservation of our forest and wild

flowers. I feel that we should start a campaign in their protection and I know your association is working along such lines.

"We must preserve and protect before it is too late, as many of our Eastern states have discovered. I should appreciate any cooperation on the part of your group, as I am just beginning this work. I feel that we could make our plans together and get splendid results."

In view of the fact that many wives and children of sportsmen utilize the time when father or brother is fishing to study and enjoy wild flowers, it has been suggested that some cooperation with the Garden Club of America be given by Montana sportsmen's groups.

POWDER RIVER PRESERVE

HERE is a suggestion from the Custer Rod and Gun Club: "At a meeting of the Custer Rod and Gun Club the principal problem discussed for presentation was that of elimination of the Powder River Game Preserve and the substitution of a number of smaller refuges strategically located. Definite plans for the establishment of the smaller refuges have not been formulated at this time, since this is a matter that should be given considerable serious study and it is desired that the several agencies interested in game propagation in this section of Montana cooperate in the sub-

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mission of appropriate recommendations."

This matter would have to come before the legislature, it is understood, before formal action could be taken. But some plan may be worked out by the clubs of the area affected.

STUDIES MISSOULA RIVER

MISSOULA sportsmen are delighted with the action taken by the State Fish and Game Commission when they employed Dr. Joseph Howard of the State University to examine the pollution of the Missoula River.

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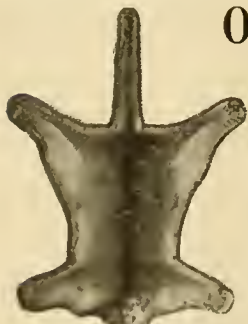
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Eulogy to the Dog

GENTLEMEN OF THE JURY: *The best human friend a man has in the world may turn against him and become his enemy. His son or daughter that he has reared with loving care may prove ungrateful. Those who are nearest and dearest to us, those whom we trust with our happiness and our good name may become traitors to the faith. The money that a man has he may lose. It flies away from him perhaps, when he needs it most. A man's reputation may be sacrificed in a moment of ill-considered action. The people who are prone to fall on their knees to do us honor when success is with us may be the first to throw the stone of malice when failure settles its cloud upon our heads. The one absolutely unselfish friend that man can have in this selfish world, the one that never deserts him, the one that never proves ungrateful or treacherous, is his dog.*

"A man's dog stands by him in prosperity and in poverty, in health and in sickness. He will sleep on the cold ground where the wintry wind blows and the snow drives fiercely, if only he may be near his master's side. He will kiss the hand that has no food to offer. He will lick the wounds and sores that come in encounter with the roughness of the world. He guards the sleep of his pauper master as if he were a prince. When all other friends desert he remains. When riches take wings and reputation falls to pieces, he is as constant in his love as the sun in its journeys through the heavens. If fortune drives the master out an outcast in the world, friendless and homeless, the faithful dog asks no higher privilege than that of accompanying him to guard against danger, to fight against his enemies. And when the last scene of all comes, and death takes the master in its embrace and his body is laid away in the cold ground, no matter if all other friends pursue their way, there by the graveside may the noble dog be found, his head between his paws, his eyes sad but open in alert watchfulness, faithful and true even in death."—SENATOR VEST, of Missouri.



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